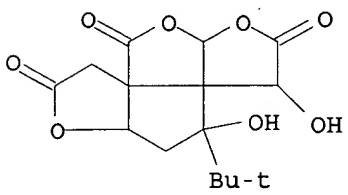
```
=> d his

     (FILE 'REGISTRY' ENTERED AT 10:50:47 ON 18 APR 2005)
               DEL HIS Y

     FILE 'REGISTRY' ENTERED AT 10:53:09 ON 18 APR 2005
               ACT GINKO/A
               ---------
L1   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE A"/CN
L2   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIC ACID"/CN
L3   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  BILOBALIDE/CN
L4   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE C"/CN
L5   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE B"/CN
L6             5 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5)
               ---------

     FILE 'HCAPLUS' ENTERED AT 10:53:18 ON 18 APR 2005
               SET SFIELD OBI
L7          2899 S GINKGO
L8          1258 S L7 (L) EXT?
L9         15974 S ULTRAFILTRA?
L10            4 S L8 AND L9
L11            2 S L7 (L) L9
L12        16962 S ULTRAFILT?
L13            4 S L7 AND L12
L14        17699 S TERPENOID# OR TERPENLACTONE?
L15         6700 S FLAVONGLYCOSIDE# OR GLYCOSIDE? (L) FLAVON?
L16        26584 S ULTRAFILTR?/AB
L17            6 S L7 AND (L9 OR L16)
L18          157 S L7 AND L15
L19            7 S L18 AND L14
L20          856 S L6
L21            3 S L20 AND (L9 OR L16)
               SET SFIELD BI
L22       226941 S ( HIGH## (4A) (CONTEN? OR PERCENT? OR AMOUNT? OR AMT#))
L23           58 S L22 AND L7
L24            7 S L23 AND (L14 OR L15)
L25           18 S L24 OR L21 OR L19 OR L13 OR L11 OR L10
```

```
=> fil reg
FILE 'REGISTRY' ENTERED AT 11:05:22 ON 18 APR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   17 APR 2005  HIGHEST RN 848640-07-3
DICTIONARY FILE UPDATES:  17 APR 2005  HIGHEST RN 848640-07-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d que l6
L1   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE A"/CN
L2   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIC ACID"/CN
L3   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  BILOBALIDE/CN
L4   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE C"/CN
L5   (         1)SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE B"/CN
L6             5 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5)


=> d l6 1-5

L6   ANSWER 1 OF 5  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   33570-04-6  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   4H,5aH,9H-Furo[2,3-b]furo[3',2':2,3]cyclopenta[1,2-c]furan-2,4,7(3H,8H)-
     trione, 9-(1,1-dimethylethyl)-10,10a-dihydro-8,9-dihydroxy-,
     (3aS,5aR,8R,8aS,9R,10aS)- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   4H,5aH,9H-Furo[2,3-b]furo[3',2':2,3]cyclopenta[1,2-c]furan-2,4,7(3H,8H)-
     trione, 9-(1,1-dimethylethyl)-10,10a-dihydro-8,9-dihydroxy-,
     [5aR-(3aS*,5aα,8β,8aS*,9α,10aα)]-
CN   4H,5aH,9H-Furo[2,3-b]furo[3',2':2,3]cyclopenta[1,2-c]furan-2,4,7(3H,8H)-
     trione, 9α-tert-butyl-10,10aβ-dihydro-8α,9-dihydroxy-,
```

(-)- (8CI)
OTHER NAMES:
CN (-)-Bilobalide
CN Bilobalid
CN **Bilobalide**
MF C15 H18 O8
CI COM
LC STN Files: ADISINSIGHT, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MEDLINE, PROMT, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

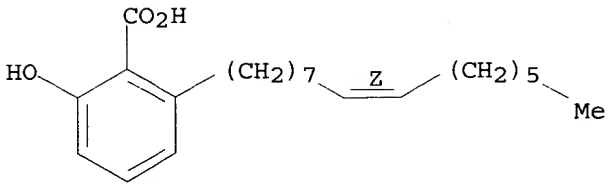


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

235 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
236 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 22910-60-7 REGISTRY
ED Entered STN: 16 Nov 1984
CN Benzoic acid, 2-hydroxy-6-(8Z)-8-pentadecenyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzoic acid, 2-hydroxy-6-(8-pentadecenyl)-, (Z)-
CN Salicylic acid, 6-(8-pentadecenyl)-, (Z)- (8CI)
OTHER NAMES:
CN 1-Hydroxy-2-carboxy-3-(pentadecen-8'-yl)benzene
CN 22:1-ω7-Anacardic acid
CN 6-(8Z)-Pentadecenylsalicylic acid
CN 6-(Z)-8-Pentadecenylsalicylic acid
CN Anacardic acid monoene
CN Ginkgoic acid
CN **Ginkgolic acid**
CN Ginkgolic acid I
CN Romanicardic acid
FS STEREOSEARCH
DR 480-48-8
MF C22 H34 O3
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CIN, DDFU, DRUGU, IPA, MEDLINE, NAPRALERT, PROMT, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

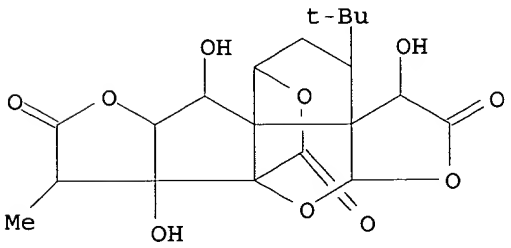
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

128 REFERENCES IN FILE CA (1907 TO DATE)
10 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
130 REFERENCES IN FILE CAPLUS (1907 TO DATE)

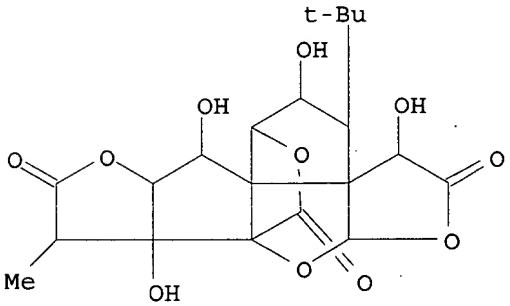
L6 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 15291-77-7 REGISTRY
ED Entered STN: 16 Nov 1984
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-4,7b,11-trihydroxy-8-methyl-, (1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H-Dicyclopenta[b,c]furan-3,5a(6H)-diacetic acid, 6-tert-butyl-3a-carboxyhexahydro-α5a,1,2,3,5,8-hexahydroxy-α3-methyl-, tri-γ-lactone (8CI)
CN Ginkgolide A, 1-hydroxy-, (1β)- (8CI)
OTHER NAMES:
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-4,7b,11-trihydroxy-8-methyl-, [1R-(1α,3β,3aS*,4β,6aα,7aα,7bα,8α, 10aα,11β,11aR*)]-
CN BN 52021
CN BN 52051
CN **Ginkgolide B**
FS STEREOSEARCH
DR 99796-69-7
MF C20 H24 O10
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IMSDRUGNEWS, IMSRESEARCH, IPA, MEDLINE, MRCK*, NAPRALERT, PHAR, PROMT, PROUSDDR, RTECS*, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

616 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
617 REFERENCES IN FILE CAPLUS (1907 TO DATE)

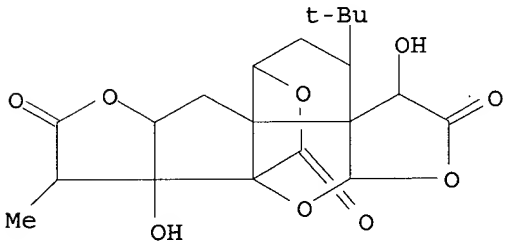
L6 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 15291-76-6 REGISTRY
ED Entered STN: 16 Nov 1984
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-2,4,7b,11-tetrahydroxy-8-methyl-, (1S,2R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H-Dicyclopenta[b,c]furan-3,5a(6H)-diacetic acid, 6-tert-butyl-3a-carboxyhexahydro-α5a,1,2,3,5,7,8-heptahydroxy-α3-methyl-, tri-γ-lactone
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-tert-butylhexahydro-2,4,7b,11-tetrahydroxy-8-methyl- (8CI)
CN Ginkgolide A, 1,7-dihydroxy-, (1β,7β)-
OTHER NAMES:
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-2,4,7b,11-tetrahydroxy-8-methyl-, [1R-(1α,2α,3β,3aS*,4β,6aα,7aα,7bα, 8α,10aα,11α,11aR*)]-
CN BN 52022
CN **Ginkgolide C**
FS STEREOSEARCH
DR 219608-62-5
MF C20 H24 O11
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK*, NAPRALERT, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)



198 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
199 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN

RN 15291-75-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-4,7b-dihydroxy-8-methyl-, (1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-tert-butylhexahydro-4,7b-dihydroxy-8-methyl- (8CI)
CN **Ginkgolide A**
OTHER NAMES:
CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-4,7b-dihydroxy-8-methyl-, [1R-(1α,3β,3aS*,4β,6aα,7aα,7bα,8α, 10aα,11aS*)]-
CN BN 52020
CN [1R-(1α,3β,3aS*,4β,6aα,7aα,7bα,8α, 10aα,11aS*)]-3-(1,1-Dimethylethyl)hexahydro-4,7b-dihydroxy-8-methyl-9H-1,7a-(epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione
FS STEREOSEARCH
DR 119677-04-2
MF C20 H24 O9
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK*, NAPRALERT, PROMT, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)



307 REFERENCES IN FILE CA (1907 TO DATE)
21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
308 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:05:29 ON 18 APR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 18 Apr 2005 VOL 142 ISS 17
FILE LAST UPDATED: 17 Apr 2005 (20050417/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> d que l25
L1   (         1) SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE A"/CN
L2   (         1) SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIC ACID"/CN
L3   (         1) SEA FILE=REGISTRY ABB=ON  PLU=ON  BILOBALIDE/CN
L4   (         1) SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE C"/CN
L5   (         1) SEA FILE=REGISTRY ABB=ON  PLU=ON  "GINKGOLIDE B"/CN
L6             5 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5)

L7          2899 SEA FILE=HCAPLUS ABB=ON  PLU=ON  GINKGO/OBI
L8          1258 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 (L) EXT?/OBI
L9         15974 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ULTRAFILTRA?/OBI
L10            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L8 AND L9
L11            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 (L) L9
L12        16962 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ULTRAFILT?/OBI
L13            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 AND L12
L14        17699 SEA FILE=HCAPLUS ABB=ON  PLU=ON  TERPENOID#/OBI OR TERPENLACTON
                  E?/OBI
L15         6700 SEA FILE=HCAPLUS ABB=ON  PLU=ON  FLAVONGLYCOSIDE#/OBI OR
                  GLYCOSIDE?/OBI (L) FLAVON?/OBI
L16        26584 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ULTRAFILTR?/AB
L18          157 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 AND L15
L19            7 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18 AND L14
L20          856 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6
L21            3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L20 AND (L9 OR L16)
L22       226941 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ( HIGH## (4A) (CONTEN? OR
                  PERCENT? OR AMOUNT? OR AMT#))
L23           58 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 AND L7
L24            7 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L23 AND (L14 OR L15)
L25           18 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 OR L21 OR L19 OR L13 OR
                  L11 OR L10


=> d .ca l25 1-18
THE ESTIMATED COST FOR THIS REQUEST IS 53.46 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L25  ANSWER 1 OF 18  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:        2004:237574  HCAPLUS
DOCUMENT NUMBER:         141:354939
TITLE:                   Further purification of Ginkgo biloba
                         flavones by ultrafiltration
AUTHOR(S):               Xu, Zhi-hong; Xiao, Ze-yi; Li, Lei; Zhang, Zhi-bing
CORPORATE SOURCE:        Department of Chemical Engineering, Nanjing
                         University, Nanjing, Jiangsu, 210093, Peop. Rep. China
SOURCE:                  Jingxi Huagong (2004), 21(2), 112-114, 124
```

CODEN: JIHUFJ; ISSN: 1003-5214
PUBLISHER: Jingxi Huagong Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 23 Mar 2004
AB Expts. for further concentration of flavones from Ginkgo biloba extract were carried out by use of a sulfonated polyethersulfone ultrafiltration membrane with mol. weight cut-off of 10000. Concentration of total flavones in the filtrate can be elevated from w(flavones) = 21.3 % in the original extract to w(flavones) = 39.2%. The effects of feed temperature and filtration pressure on the operation were tested and discussed. The results showed that the flux of ultrafiltration increased from 7.5 L/(m2 · h) to 11.2 L/(m2 · h) when the temperature varied from 30° to 40°, and it increased from 6.1 L/(m2 · h) to 10.0 L/(m2 · h) as the pressure changed from 0.15 MPa to 0.25 MPa, but both temperature and pressure bad little impact an the selectivity.
CC 63-4 (Pharmaceuticals)
ST purifn **Ginkgo** biloba flavone **ultrafiltration**
IT Concentration (process)
Extraction
Ginkgo biloba
Ultrafilters
Ultrafiltration
(further purification of **Ginkgo** biloba flavones by **ultrafiltration**)
IT Flavones
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(further purification of **Ginkgo** biloba flavones by **ultrafiltration**)
IT 25667-42-9D, Polyethersulfone, Sulfonated
RL: NUU (Other use, unclassified); USES (Uses)
(further purification of **Ginkgo** biloba flavones by **ultrafiltration**)

L25 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:698433 HCAPLUS
DOCUMENT NUMBER: 139:348123
TITLE: Research on effect of culture condition factors on synthesis of **flavone glycosides** in cell suspension of **Ginkgo** biloba L
AUTHOR(S): Li, Chun-bin; Wang, Guan-lin; Yue, Yu-lian; Jiang, Bo; Fang, Hong-jun
CORPORATE SOURCE: School of Chem. Eng., Dalian Univ. of Technol., Dalian, 116012, Peop. Rep. China
SOURCE: Dalian Ligong Daxue Xuebao (2003), 43(3), 287-291
CODEN: DLXUEJ; ISSN: 1000-8608
PUBLISHER: Dalian Ligong Daxue
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 07 Sep 2003
AB The content of flavone glycosides from young leaves of 12 various breed Ginkgo biloba L. was detected, the result shows that there is a big difference in the content of flavone glycosides for the different breeds. The content of Meihe, 3.32%, is the highest, and that of Dabaiguo, 0.84%, is the lowest. In addition, the content of Meihe of callus from young leaves, 1.26%, is the highest; and that of Lingnan of callus from young leaves, 0.22%, is the lowest. The callus, which grows fast and has

higher content of flavone glycosides was selected, and cultured in B5 suspension medium, and many culture conditions on cell growth and content of flavone glycosides were investigated. About 50 mL culture substance was loaded in 150 mL flask, and the weight of inoculation was 30-40 g/L, then the light intensity was 3000-4000 lx, carbon source is sucrose. The condition mentioned above is optimum to the synthesis of flavone glycosides. While carbon source is glucose, it is optimum to the growth of cells. The result from HPLC anal. shows that the content of flavone glycosides of dry weight is 2.82% in suspension cell.

CC 11-1 (Plant Biochemistry)

ST **Ginkgo** cell culture **flavone glycoside**

IT **Glycosides**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**flavonoid**, oxo; research on effect of culture condition factors on synthesis of **flavone glycosides** in cell suspension of **Ginkgo** biloba L)

IT **Ginkgo** biloba
(research on effect of culture condition factors on synthesis of **flavone glycosides** in cell suspension of **Ginkgo** biloba L)

IT Animal tissue culture
(suspension; research on effect of culture condition factors on synthesis of **flavone glycosides** in cell suspension of **Ginkgo** biloba L)

L25 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:356164 HCAPLUS
DOCUMENT NUMBER: 138:367888
TITLE: Improved botanical extractions process using stabilizing antioxidants and carboxylic acids.
INVENTOR(S): Greene, John Bertram
PATENT ASSIGNEE(S): Brightwater Horticulture Limited, N. Z.
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003037096	A1	20030508	WO 2002-NZ230	20021031
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
NZ 515182	A	20040326	NZ 2001-515182	20011031
US 2005053677	A1	20050310	US 2004-493961	20041019
PRIORITY APPLN. INFO.:			NZ 2001-515182 A	20011031
			WO 2002-NZ230 W	20021031

ED Entered STN: 09 May 2003

AB The present invention discloses a method of extracting biol. active compds. from botanical material, the method stabilizing the botanical material from oxidative degradation This preserves the biol. active compds. in the

material. In the main embodiment, the plant material is mixed with a solution containing at least one acid and one antioxidant. The oxidative degradation of the biol. active compds. in plant material can be prevented, slowed or stopped by the invention.

IC ICM A23F003-16
ICS A23F003-18; C07B063-00; C07C039-19; C07C039-21; C07C057-42; C07C059-52; C07G017-00

CC 17-2 (Food and Feed Chemistry)
Section cross-reference(s): 63

IT Angelica sinensis
Antioxidants
Atmosphere (environmental)
Bark
Berry
Black cohosh
Chamomile
Crataegus
Cynara scolymus
Drying
Echinacea
Echinacea purpurea
Embryophyta
Extraction
Filtration
Flower
Freeze drying
Freezing
Ginkgo biloba
Humulus
Hypericum
Leaf
Panax
Passiflora
Piper methysticum
Reverse osmosis
Ribes
Trifolium pratense
Ultrafiltration
(improved botanical **extns.** process using stabilizing antioxidants and carboxylic acids)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:243364 HCAPLUS
DOCUMENT NUMBER: 139:296634
TITLE: Extraction of **flavonoid glycosides** from **Ginkgo** biloba leaves and their adsorption separations using hydrophobic and anion-exchange membranes
AUTHOR(S): Yu, Fu-Chieh; Lai, Shih-Ming; Suen, Shing-Yi
CORPORATE SOURCE: Department of Chemical Engineering, National Chung Hsing University, Taichung, 402, Taiwan
SOURCE: Separation Science and Technology (2003), 38(5), 1033-1050
CODEN: SSTEDS; ISSN: 0149-6395
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

ED Entered STN: 30 Mar 2003
AB In this work, the extraction of flavonoid glycosides from Ginkgo biloba leaves and their adsorption separation performance using C18 hydrophobic and strong anion-exchange membranes were investigated. First, the preparation of crude Ginkgo biloba L. exts. was carried out using 70% ethanol, and the effects of different extraction conditions were evaluated. The results show that the extraction temperature (50-70°) and extraction time (1-5 h) did not significantly influence the performance, but a lower solvent amount (50 g per 10 g dry leaves) resulted in a better extraction Before the adsorption sepns.,. The exts. were dissolved in 30% ethanol to remove the undesirable biflavones and then used as feed solns. Eighty percent ethanol was used as the eluent in the elution stage. Comparing the performances for different processes, higher yield for total flavonoid glycoside amount (46-60% for hydrophobic membranes and 39-53% for anion-exchange membranes) was accomplished in the batch process. On the other hand, a **higher** flavonoid glycoside **content** at the top fraction of elution peak (10% for hydrophobic membranes and 7-13% for anion-exchange membranes) and a shorter process period were achieved in the flow process.
CC 63-4 (Pharmaceuticals)
Section cross-reference(s): 27
ST **flavonoid glycoside** extn **Ginkgo**
IT Extraction
Ginkgo biloba
(extraction of **flavonoid glycosides** from **Ginkgo** biloba leaves and adsorption sepns. using hydrophobic and anion-exchange membranes)
IT **Glycosides**
RL: NPO (Natural product occurrence); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(**flavonoid**; extraction of **flavonoid glycosides** from **Ginkgo** biloba leaves and adsorption sepns. using hydrophobic and anion-exchange membranes)
IT 117-39-5, Quercetin 480-19-3, Isorhamnetin 520-18-3, Kaempferol
RL: NPO (Natural product occurrence); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(extraction of **flavonoid glycosides** from **Ginkgo** biloba leaves and adsorption sepns. using hydrophobic and anion-exchange membranes)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:15604 HCAPLUS
DOCUMENT NUMBER: 132:35038
TITLE: Water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**
INVENTOR(S): Oschmann, Rainer; Grethlein, Eckardt
PATENT ASSIGNEE(S): Willmar Schwabe GmbH & Co., Germany
SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

DE 19829516	A1	20000105	DE 1998-19829516	19980702
DE 19829516	B4	20040826		
CA 2335148	AA	20000113	CA 1999-2335148	19990619
WO 2000001397	A1	20000113	WO 1999-DE1812	19990619
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9954069	A1	20000124	AU 1999-54069	19990619
AU 745660	B2	20020328		
EP 1089748	A1	20010411	EP 1999-939923	19990619
EP 1089748	B1	20030604		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL				
JP 2002519383	T2	20020702	JP 2000-557843	19990619
AT 241995	E	20030615	AT 1999-939923	19990619
PRIORITY APPLN. INFO.:			DE 1998-19829516 A	19980702
			WO 1999-DE1812 W	19990619

ED Entered STN: 07 Jan 2000

AB A water-soluble native vegetable dried extract from plant parts, especially from Ginkgo biloba leaves, contains flavone glycosides, terpene lactones and other components and is prepared from an ultrafiltered alc.-water extract preferably. The extract is used in dietetic foods, drugs and cosmetics.

IC ICM A23L001-221
ICS A23L001-30; A61K035-78; A61K031-70; A61K031-365; A61K007-00

CC 17-6 (Food and Feed Chemistry)
Section cross-reference(s): 62, 63

ST **Ginkgo** leaf **ext** manuf **flavone glycoside terpenoid**

IT Food
(dietetic; water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

IT **Glycosides**
RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**flavonoid**, oxo; water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

IT Terpenes, biological studies
RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(lactones; water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

IT **Ginkgo** biloba
(leaves; water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

IT Cosmetics
Drugs
Plant (Embryophyta)
Ultrafiltration
(water-soluble native vegetable dried **extract**, in particular

Ginkgo biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

IT Terpenes, biological studies
RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

IT 9004-34-6, Cellulose, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(regenerated, **ultrafiltration** with S 1Y3; water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

IT **15291-75-5P**, Ginkgolide A **15291-76-6P**, Ginkgolide C **15291-77-7P**, Ginkgolide B **22910-60-7P**, Ginkgolic acid **33570-04-6P**, Bilobalide
RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(water-soluble native vegetable dried **extract**, in particular **Ginkgo** biloba **extract** with **high content** of **terpenoids** and **flavone glycosides**)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:12273 HCAPLUS
DOCUMENT NUMBER: 132:227524
TITLE: Liquid chromatography/electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba L.
AUTHOR(S): Mauri, Pierluigi; Migliazza, Barbara; Pietta, Piergiorgio
CORPORATE SOURCE: ITBA/CNR, Milan, 20090, Italy
SOURCE: Journal of Mass Spectrometry (1999), 34(12), 1361-1367
CODEN: JMSPFJ; ISSN: 1076-5174
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Jan 2000
AB Standardized exts. of G. biloba leaves are mainly used in the treatment of peripheral and cerebral circulation disorders, and also as a remedy against asthma, coughs, bladder inflammation, blenorrhagia and alc. abuse. The leaf exts. contain biflavones, flavonol glycosides and terpene lactones. This paper reports a method based on liquid chromatog. coupled with electrospray mass spectrometry for the anal. of terpenoids in G. biloba exts. This method allows the rapid isocratic separation of underivatized ginkgolides (A, B, C and J) and bilobalide at very low levels (10 pg on the column) and their quant. detection by external standardization with relative standard deviations of 3 and 5% for intra- and inter-day analyses, resp.
CC 64-2 (Pharmaceutical Analysis)
ST liq chromatog mass spectrometry **terpenoid Ginkgo**; HPLC mass spectrometry **terpenoid** detection **Ginkgo**; ginkgolide detection **Ginkgo** chromatog mass spectrometry;

electrospray mass spectrometry **Ginkgo terpenoid**

IT **Glycosides**
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(**flavonoid**; liquid chromatog./electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba exts..)

IT Terpenes, analysis
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(lactones; liquid chromatog./electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba exts..)

IT Mass spectrometry
Mass spectrometry
(liquid chromatog. combined with; liquid chromatog./electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba exts..)

IT Electrospray ionization mass spectrometry
Ginkgo biloba
HPLC
(liquid chromatog./electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba exts..)

IT Flavonoids
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(liquid chromatog./electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba exts..)

IT Liquid chromatography
Liquid chromatography
(mass spectrometry combined with; liquid chromatog./electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba exts..)

IT 153-18-4, Quercetin 3-O-rutinoside 604-80-8, Isorhamnetin 3-O-rutinoside 15291-75-5, Ginkgolide A 15291-76-6, Ginkgolide C 15291-77-7, Ginkgolide B 17650-84-9, Kaempferol 3-O-rutinoside 32453-37-5 32690-74-7 33570-04-6, Bilobalide 107190-70-5 107190-71-6 107438-79-9, Ginkgolide J 175089-93-7 261353-22-4
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(liquid chromatog./electrospray mass spectrometry of bioactive **terpenoids** in **Ginkgo** biloba exts..)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:9524 HCAPLUS
DOCUMENT NUMBER: 130:220036
TITLE: Automated electron spin resonance free radical detector assays for antioxidant activity in natural extracts
AUTHOR(S): Noda, Yasuko; Kohno, Masahiro; Mori, Akitane; Packer, Lester
CORPORATE SOURCE: Department of Molecular and Cell Biology, University of California, Berkeley, CA, 94720-3200, USA
SOURCE: Methods in Enzymology (1999), 299(Oxidants and Antioxidants, Part A), 28-34
CODEN: MENZAU; ISSN: 0076-6879

PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 07 Jan 1999
AB There is now increasing interest in the antioxidant activity of phytochems. present in the diet, in health food supplements (neutraceuticals), and in topical prepns. for protection of the skin (cosmaceuticals) from environmental exposure. A simple and rapid estimation of hydroxyl and superoxide anion radical scavenging activities by aqueous extract from natural sources can be made using a new computerized JEOL ESR system. The relative free radical scavenging activities of various samples are able to be evaluated based on normalizing ESR (ESR) signals relative to the standard activity of L-ascorbic acid 2-[3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-1-benzopyran-6-yl hydrogen phosphate] potassium salt (EPC-K1) as a scavenger of hydroxyl radical and copper-zinc superoxide dismutase (SOD) as a superoxide anion radical scavenger. Treatment of exts. with ascorbate oxidase reveals that in some cases the presence of vitamin C partially accounts for hydroxyl and superoxide anion radical scavenging activities. Treatments with centrifuge-type filters [Ultrafree-MC filters: 10,000 nominal mol. weight limit (NMWL) regenerated cellulose membrane or 100,000 NMWL polysulfone membrane] divide antioxidant activities in a sample to low mol. weight materials and high mol. materials (such as enzymes), and heat treatment also shows the contribution of heat-inactivated components to antioxidant activities in a sample. (c) 1999 Academic Press.
CC 9-5 (Biochemical Methods)
Section cross-reference(s): 11
IT ESR spectroscopy
Ginkgo biloba
Heat treatment
Plant analysis
Process automation
Radical scavengers
Ultrafiltration
(automated ESR free radical detector assays for antioxidant activity in plant **exts.**)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:127079 HCAPLUS
DOCUMENT NUMBER: 128:132398
TITLE: **High-content** flavone lactone extracts from **ginkgo** leaves
INVENTOR(S): Xie, Delong; Wang, Ning; Gao, Qi
PATENT ASSIGNEE(S): State Chinese Medicine Pharmaceutical Engineering Research Center, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 22 pp. CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1145230	A	19970319	CN 1995-111763	19950915
CN 1073848	B	20011031		
PRIORITY APPLN. INFO.:			CN 1995-111763	19950915

ED Entered STN: 04 Mar 1998

AB **High-content** flavone lactone exts. from ginkgo leaves are prepared containing total flavones >44% [flavone glucoside ≥ 24%], lactone >6% and ginkgoic acid <10 ppm. The exts. are useful for protecting the function of heart and brain blood vesseles.
IC ICM A61K035-78
ICS A61K031-365; C07D311-30
CC 63-4 (Pharmaceuticals)
Section cross-reference(s): 1, 11
ST flavone lactone ext **ginkgo** leaf
IT Blood vessel
(brain; **high-content** flavone lactone exts. from **ginkgo** leaves for protection of)
IT Lactones
RL: PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(flavone; **high-content** flavone lactone exts. from **ginkgo** leaves)
IT **Glycosides**
RL: PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**flavonoid**, oxo; **high-content** **flavone** lactone exts. from **ginkgo** leaves)
IT Heart
(function; **high-content** flavone lactone exts. from **ginkgo** leaves for protection of)
IT **Ginkgo**
(**high-content** flavone lactone exts. from **ginkgo** leaves)
IT Flavones
RL: PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**high-content** flavone lactone exts. from **ginkgo** leaves)
IT 22910-60-7P, Ginkgoic acid
RL: PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**high-content** flavone lactone exts. from **ginkgo** leaves for protection of)

L25 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:479909 HCAPLUS
DOCUMENT NUMBER: 122:261362
TITLE: Seasonal and sexual variation of ginkgolides contents in **ginkgo** leaves
AUTHOR(S): Sung, Sang Hyun; Jeon, Soon Hwa; Moon, Young Shim; Lee, Heum Sook; Huh, Hoon; Kim, Young Choong
CORPORATE SOURCE: Coll. Pharmacy, Seoul Natl. Univ., Seoul, 151-742, S. Korea
SOURCE: Yakhak Hoechi (1994), 38(1), 20-3
CODEN: YAHOA3; ISSN: 0513-4234
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: Korean
ED Entered STN: 11 Apr 1995
AB The contents of ginkgolides were determined in the leaves of male and female Ginkgo biloba from late spring until mid-autumn. Ginkgolides were detected during the whole growing season in the leaves of each tree. Ginkgolides content was low in late spring, gradually increased to reach a maximum in August and decreased thereafter. The male trees have two or three times **higher** ginkgolides **content** than the female

trees. Comparing these results with that of previously reported values, the sexual variation of ginkgolides content seemed not to be genetic.
CC 11-8 (Plant Biochemistry)
ST **ginkgo** leaf season sex ginkgolide variation
IT Terpenes and **Terpenoids**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(ginkgolides; seasonal and sexual variation of ginkgolides contents of leaves of)
IT **Ginkgo** biloba
(seasonal and sexual variation of ginkgolides contents of leaves of)

L25 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:524394 HCAPLUS
DOCUMENT NUMBER: 117:124394
TITLE: Effects of **Ginkgo** biloba extract (EGb 761) on the guinea pig vestibular system
AUTHOR(S): Yabe, Takao; Chat, Mireille; Malherbe, Eric; Vidal, Pierre Paul
CORPORATE SOURCE: Lab. Physiol. Neurosensorielle, CNRS, Paris, 75270, Fr.
SOURCE: Pharmacology, Biochemistry and Behavior (1992), 42(4), 595-604
CODEN: PBBHAU; ISSN: 0091-3057
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Oct 1992
AB Previous studies have demonstrated that the administration of Ginkgo biloba extract (EGb 761) improves the compensation of the vestibular syndrome induced by transection of the VIIIth nerve. To investigate the mechanisms at play, the vestibular nuclei of alert guinea pigs were perfused with EGb 761 (containing 24% flavonoid glycosides (ginkgo flavone glycosides) and 6% terpene lactones). This perfusion always induced a stereotyped reversible postural syndrome that was the mirror image of the syndrome provoked by the unilateral lesion of the otolithical receptors. This result supports the hypothesis that EGb 761 has a direct excitatory effect on the lateral vestibular nuclei (LVN) neurons. In a second step, the authors quantified the horizontal vestibulo-ocular reflex (HVOR) of the normal guinea pig following IP injection of EGb 761. In normal guinea pig, IP administration of EGb 761 led to a reversible, dose-dependent decrease of the HVOR gain without affecting the phase of the reflex. These data help to explain the therapeutic effects of EGb 761 during vestibular syndromes and strongly suggest an impact at the neuronal level.
CC 1-11 (Pharmacology)
ST **Ginkgo** ext EGb761 vestibular system disorder; **flavonoid glycoside Ginkgo** ext vestibular system; terpene lactone **Ginkgo** ext vestibular system
IT **Ginkgo** biloba
(extract containing **flavonoid glycosides** and terpene lactones of, vestibular system disorder treatment with, mechanism of)
IT **Glycosides**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**flavonoid**, vestibular system disorder treatment with **Ginkgo** biloba extract EGb 761 containing, mechanism of)
IT Terpenes and **Terpenoids**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(lactones, vestibular system disorder treatment with **Ginkgo** biloba extract EGb 761 containing, mechanism of)

IT Nervous system
(vestibular, disease, **Ginkgo** biloba extract EGb 761 containing **flavonoid glycosides** and terpene lactones for treatment of, mechanism of)

L25 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:91516 HCAPLUS
DOCUMENT NUMBER: 116:91516
TITLE: Seasonal variations of the flavonoid content from **Ginkgo** biloba leaves
AUTHOR(S): Lobstein, A.; Rietsch-Jako, L.; Haag-Berrurier, M.; Anton, R.
CORPORATE SOURCE: Lab. Pharmacogn., Fac. Pharm., Strasbourg, F-67401, Fr.
SOURCE: Planta Medica (1991), 57(5), 430-3
CODEN: PLMEAA; ISSN: 0032-0943
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Mar 1992
AB N HPLC method for the separation and the determination of flavonol glycosides, acylflavonol glycosides, and biflavones in crude leaf exts. from G. biloba is described. The results, expressed in percentage of rutin, kaempferol p-coumaroyl glucorhamnoside, and bilobetin showed a **higher amount** of acylflavonol glycosides in buds, of flavonol glycosides in spring leaves, and of biflavones in autumn leaves.
CC 64-2 (Pharmaceutical Analysis)
Section cross-reference(s): 11, 63
ST **flavonoid** detn **Ginkgo** HPLC season; **glycoside flavonoid Ginkgo** HPLC; chromatog liq **flavonoid Ginkgo**
IT Plant analysis
(biflavones and **flavonol glycosides** determination by HPLC in **Ginkgo** biloba leaves in, seasonal variations in relation to)
IT **Ginkgo** biloba
(biflavones and **flavonol glycosides** determination in leaves of, by HPLC, seasonal variations in relation to)
IT Plant growth and development
(biflavones and **flavonol glycosides** of **Ginkgo** biloba leaves in relation to, HPLC study of)
IT Carboxylic acids, analysis
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in **Ginkgo** biloba leaves by HPLC, seasonal variations in relation to)
IT Flavonoids
RL: ANT (Analyte); ANST (Analytical study)
(bi-, oxo, determination of, in **Ginkgo** biloba leaves by HPLC, seasonal variations in relation to)
IT **Glycosides**
RL: ANT (Analyte); ANST (Analytical study)
(**flavonoid**, determination of, in **Ginkgo** biloba leaves by HPLC, seasonal variations in relation to)
IT Chromatography, column and liquid
(high-performance, biflavones and **flavonol glycosides** determination in **Ginkgo** biloba leaves by, seasonal variations in relation to)
IT 138-59-0, Shikimic acid 153-18-4, Quercetin 3-O-rutinoside 480-10-4 481-46-9, Ginkgetin 482-35-9, Quercetin 3-O-glucoside 521-32-4,

Bilobetin 521-34-6, Sciadopitysin 548-19-6, Isoginkgetin 1617-53-4, Amentoflavone 3778-29-8, 6-Hydroxykynurenic acid 102231-39-0 113447-39-5
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in **Ginkgo** biloba leaves by HPLC, seasonal variations in relation to)

L25 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:647539 HCAPLUS
DOCUMENT NUMBER: 115:247539
TITLE: Role of platelet activating factor in gentamicin and cisplatin nephrotoxicity
AUTHOR(S): Pavao dos Santos, Oscar F.; Boim, Mirian A.; Barros, Elvino J. G.; Schor, Nestor
CORPORATE SOURCE: Neprhol. Div., Esc. Paul. Med., Sao Paulo, 04023, Brazil
SOURCE: Kidney International (1991), 40(4), 742-7
CODEN: KDYIA5; ISSN: 0085-2538
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Dec 1991
AB The present study was undertaken to evaluate the effects of platelet activating factor (PAF) antagonists on nephrotoxicity induced by gentamicin (GENTA) and cisplatin (DDP) in rats. PAF infusion provoked a 56% decline in single nephron (SN) GFR due to a decrease in glomerular plasma flow (QA, 55%), glomerular transcapillary hydraulic pressure (ΔP, 13%), and glomerular **ultrafiltration** coefficient (Kf, 37%). Four days after a single dose of DDP (6 mg/kg, i.p.) the authors observed non-oliguric acute renal failure (ARF) with reduced SNGFR (45%), QA (46%) and ΔP (10%) and unchanged Kf. GENTA administration for 10 days (40 mg/kg, i.p. daily) induced a decline in SNGFR (40%), QA (41%) and Kf (41%). Chronic treatment with a GENTA + PAF antagonist (BN 52021) partially prevented the decline in SNGFR (22%) by an amelioration in QA (25%) and Kf (13%). However, simultaneous treatment with DDP and BN 52063 completely prevented the ARF induced by DDP, normalizing all parameters of renal function. Thus, PAF may be a potential mediator involved in the nephrotoxicity induced by GENTA and DDP.
CC 1-4 (Pharmacology)
IT **15291-77-7**, BN 52021
RL: BIOL (Biological study)
(gentamicin and cisplatin kidney toxicity prevention by, platelet activating factor inhibition in relation to)

L25 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:88633 HCAPLUS
DOCUMENT NUMBER: 114:88633
TITLE: Extraction of tharapeutic flavons from **ginkgo** leaves
INVENTOR(S): Matsumoto, Takeshi
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02193907	A2	19900731	JP 1989-10772	19890119

PRIORITY APPLN. INFO.: JP 1989-10772 19890119
ED Entered STN: 09 Mar 1991
AB Dried ginkgo leaves are treated with e.g. 30-45% EtOH to give an extract containing therapeutic biflavones, terpenes, and flavone glycosides. Harmful salicylates are nondetectable. The prepns. also can be used in manufacturing cosmetics and foods.
IC ICM A61K007-00
ICS A23L001-30; A61K035-78
ICA A23L001-212
CC 63-4 (Pharmaceuticals)
Section cross-reference(s): 11, 17, 62
ST **ginkgo** biflavone terpene extn; **flavone glycoside** extn **ginkgo**
IT Terpenes and **Terpenoids**, biological studies
RL: PROC (Process)
(extraction of, from **ginkgo** leaves)
IT **Ginkgo**
(leaves, therapeutic biflavone terpene and **flavone glycoside** extraction from)
IT Flavonoids
RL: PROC (Process)
(bi-, oxo, extraction of, from **ginkgo** leaves)
IT **Glycosides**
RL: PROC (Process)
(**flavonoid**, oxo, extraction of, from **ginkgo** leaves)

L25 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:551138 HCAPLUS
DOCUMENT NUMBER: 113:151138
TITLE: Manufacture of chocolate containing terpenes and **flavone glycosides** of **ginkgo** leave extract
INVENTOR(S): Matsumoto, Takeshi; Matsumoto, Akiko
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02031646	A2	19900201	JP 1988-182033	19880721

PRIORITY APPLN. INFO.: JP 1988-182033 19880721
ED Entered STN: 27 Oct 1990
AB A chocolate is prepared with a ginkgo extract containing (1) a terpene-like ginkgolide, bilobalide, etc., (2) glycoside-like quercetin glycoside, kaempferol glycoside, etc., or (3) a mixture of these, which is effective in treating senile dementia and cerebral apoplexy.
IC ICM A23G001-00
ICA A61K035-78
CC 17-13 (Food and Feed Chemistry)
Section cross-reference(s): 1, 11
ST **ginkgo** terpene glycoside chocolate
IT **Ginkgo**
(leaves, terpenes and glycosides of, chocolate manufacture with)
IT Chocolate
(manufacture of, containing terpenes and **flavone glycosides** of **ginkgo** leaves exts.)

IT Terpenes and **Terpenoids**, biological studies
RL: BIOL (Biological study)
(of **ginkgo** leaf exts., chocolate containing)
IT Brain, composition
(circulatory, treatment of, terpenes and glycosides of **ginkgo** leaves for)
IT Mental disorder
(senile psychosis, treatment of, terpenes and glycosides of **ginkgo** leaves for)
IT 117-39-5D, Quercetin, glycosides 520-18-3D, Kaempferol, glycosides 525-82-6D, **Flavone, glycosides** 15291-75-5, Ginkgolide A 33570-04-6, Bilobalide
RL: BIOL (Biological study)
(of **ginkgo** leaf exts., chocolate containing)

L25 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:503374 HCAPLUS
DOCUMENT NUMBER: 113:103374
TITLE: Therapeutic chewing gum containing terpenes and **flavone glycosides** from **ginkgo** leaves
INVENTOR(S): Matsumoto, Takeshi; Matsumoto, Akiko
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02031648	A2	19900201	JP 1988-182034	19880721
PRIORITY APPLN. INFO.:			JP 1988-182034	19880721

ED Entered STN: 16 Sep 1990
AB A chewing gum contains terpenes (ginkgolide, bilobalide, etc.) and/or flavone glycosides (quercetin glycoside, kaempferol glycoside, etc.). The gum is effective in treating cerebral apoplexy. An extract containing the compds. described above was obtained from ginkgo leaves and incorporated into chewing gums.
IC ICM A23G003-30
ICS A61K035-78
CC 63-4 (Pharmaceuticals)
Section cross-reference(s): 11
ST **ginkgo** ext chewing gum; **flavone glycoside** chewing gum; terpene chewing gum; cerebral apoplexy therapy chewing gum
IT Terpenes and **Terpenoids**, biological studies
RL: BIOL (Biological study)
(**ginkgo** leave extract containing, for therapeutic chewing gum)
IT **Ginkgo**
(leaves, terpenes and **flavone glycosides** from, therapeutic chewing gum containing)
IT Chewing gum
(therapeutic, containing terpenes and **flavone glycosides**)
IT Brain, disease or disorder
(hemorrhage, treatment of, chewing gums containing terpenes and **flavone glycosides** for)
IT 117-39-5D, Quercetin, glycosides 520-18-3D, glycosides 525-82-6D, **Flavone, glycosides** 15291-75-5, Ginkgolide A

33570-04-6
RL: BIOL (Biological study)
(**ginkgo** leave extract containing, for therapeutic chewing gum)

L25 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:84292 HCAPLUS
DOCUMENT NUMBER: 112:84292
TITLE: Thin-layer and HPLC analysis of **ginkgo** extracts and extract-containing phytopreparations
AUTHOR(S): Wagner, Hildebert; Bladt, Sabine; Hartmann, Ute; Daily, Amir; Berkulin, Willi
CORPORATE SOURCE: Inst. Pharm. Biol., Univ. Muenchen, Munich, D-8000/2, Fed. Rep. Ger.
SOURCE: Deutsche Apotheker Zeitung (1989), 129(45), 2421-9
CODEN: DAZEA2; ISSN: 0011-9857
DOCUMENT TYPE: Journal
LANGUAGE: German
ED Entered STN: 03 Mar 1990
AB HPLC and TLC methods for the characterization and determination of the components of pharmaceutical ginkgo exts. are described, including TLC methods for flavonolacyl- and flavonol glycosides, biflavonoids, procyanidins, acyl phenols and phenol carboxylic acids, ginkgolides and other terpenoids determination, and HPLC of some of these and for quant. detns. of total flavonol glycosides, procyanidins, and 6-hydroxykynurenic acid.
CC 64-2 (Pharmaceutical Analysis)
Section cross-reference(s): 63
ST chromatog **ginkgo** pharmaceutical; HPLC **ginkgo** pharmaceutical; TLC **ginkgo** pharmaceutical
IT Phenols, analysis
Procyanidins
Terpenes and **Terpenoids**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in **Ginkgo** biloba drugs, HPLC and TLC in)
IT Chromatography, thin-layer
(of **Ginkgo** biloba drugs)
IT Plant analysis
(of **Ginkgo** biloba exts., HPLC and TLC in)
IT **Ginkgo** biloba
(pharmaceutical exts. of, HPLC and TLC of)
IT Flavonoids
RL: ANT (Analyte); ANST (Analytical study)
(bi-, determination of, in **Ginkgo** biloba drugs, HPLC and TLC in)
IT **Glycosides**
RL: ANT (Analyte); ANST (Analytical study)
(**flavonoid**, determination of, in **Ginkgo** biloba drugs, HPLC and TLC in)
IT Chromatography, column and liquid
(high-performance, of **Ginkgo** biloba drugs)
IT Flavonoids
RL: ANT (Analyte); ANST (Analytical study)
(oxo hydroxy, determination of, in **Ginkgo** biloba drugs, HPLC and TLC in)
IT 117-39-5, Quercetin 480-19-3 520-18-3
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in **Ginkgo** bilola drugs, by HPLC and TLC)
IT 138-59-0, Shikimic acid 153-18-4, Rutin 154-23-4, Catechin 480-10-4, Astragalin 481-46-9, Ginkgetin 501-26-8, Ginkgol 521-32-4, Bilobetin 521-34-6, Sciadopitysin 548-19-6, Isoginkgetin 3778-29-8 7400-08-0

15291-75-5, Ginkgolide A 15291-76-6 15291-77-7 33570-04-6, Bilobalide
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in **Ginkgo** bilola drugs, by TLC)

L25 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:400407 HCAPLUS
DOCUMENT NUMBER: 111:407
TITLE: Effect of platelet-activating factor antagonist on cyclosporine nephrotoxicity
AUTHOR(S): Dos Santos, Oscar F. Pavao; Boim, Mirian A.; Bregman, Rachel; Draibe, Sergio A.; Barros, Elvino J. G.; Pirotzky, Eduardo; Schor, Nestor; Braquet, Pierre
CORPORATE SOURCE: Nephrol. Div., Esc. Paulista Med., Sao Paulo, Brazil
SOURCE: Transplantation (1989), 47(4), 592-5
CODEN: TRPLAU; ISSN: 0041-1337
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Jul 1989
AB In order to evaluate the effect of platelet-activating factor (PAF) antagonist BN 52021 (5 mg/kg i.v.) on cyclosporine (CsA, 50 mg/kg i.v.) nephrotoxicity, euvolemic rats were submitted to nephron micropuncture studies. BN 52021 alone did not change the total (1.08 vs. 1.04 mL/min) or single-nephron (SN) (29.1 vs. 31.3 nL/min) glomerular filtration rate (GFR). CsA caused a decline in GFR (0.47 vs. 0.96 mL/min) and on SNGFR (14.0 vs. 27.9 nL/min). An increase in afferent (RA) and efferent (RE) arteriolar resistances by 180% and 360%, resp., decreased glomerular plasma flow rate (QA) from 100.99 to 44.37 nL/min. The glomerular **ultrafiltration** coefficient (Kf) declined by 70% (0.096 to 0.031 mL/s mmHg). Pretreatment with BN 52021 in rats treated with CsA blunted the nephrotoxic effects on superficial nephrons. The SNGFR QA, and KF remained unaltered. The total renal function decrease was not prevented by BN 52021. Thus, PAF may participate in CsA nephrotoxicity. The protective effect of BN 52021 on superficial nephrons indicates that BN 52021 can minimize the impairment of renal function induced by CsA.
CC 1-7 (Pharmacology)
IT **15291-77-7**, BN 52021
RL: BIOL (Biological study)
(cyclosporine nephrotoxicity prevention by)

L25 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1987:135265 HCAPLUS
DOCUMENT NUMBER: 106:135265
TITLE: Comparison of proanthocyanidins and related compounds in leaves and leaf-derived cell cultures of **Ginkgo** biloba L., Pseudotsuga menziesii Franco, and Ribes sanguineum Pursh
AUTHOR(S): Stafford, Helen A.; Kreitlow, Kelly S.; Lester, Hope H.
CORPORATE SOURCE: Biol. Dep., Reed Coll., Portland, OR, 97202, USA
SOURCE: Plant Physiology (1986), 82(4), 1132-8
CODEN: PLPHAY; ISSN: 0032-0889
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 01 May 1987
AB Proanthocyanidins, flavan-3-ols, and their flavonoid precursors in leaves and leaf-derived callus and cell suspension cultures have been isolated and analyzed by HPLC with C18 columns, paper chromatog., and by chemical and spectrophotometric methods. Cultures of Ginkgo biloba and Pseudotsuga menziesii (Douglas-fir) produced much greater amts. of proanthocyanidins

than leaves per mg dry weight In cultures, however, the prodelphinidin component relative to that of procyanidins decreased: this was most pronounced in Pseudotsuga. In contrast, callus cultures of Ribes sanguineum accumulated proanthocyanidins in amts. about equal to those in intact leaves per mg dry weight and the prodelphinidin **content** remained **high.** Although Ginkgo and Ribes leaves contained major amts. of flavan-3-ols and dimers with the 2,3-cis-stereochem., their cultures tended to synthesize 2,3-trans-isomers instead. Glycosides of flavanone and 3-hydroxyflavanone precursors accumulated in medium to **high amts.** on a dry weight basis in leaves and cultures of Ribes and Pseudotsuga, and the 3'-glycosidic linkage predominated when the latter species was cultured with 2,4-dichlorophenoxyacetic acid rather than naphthaleneacetic acid.

CC 11-1 (Plant Biochemistry)

ST proanthocyanidin **Ginkgo** Pseudotsuga Ribes

IT Plant tissue culture
(anthocyanidins in, of leaves of **Ginkgo** biloba and Pseudotsuga menziesii and Ribes sanguineum)

IT Proanthocyanidins
RL: BIOL (Biological study)
(in leaves and leaf-derived cell cultures of **Ginkgo** biloba and Pseudotsuga manziesii and Ribes sanguineum)

IT Flavonoids
Procyanidins
RL: BIOL (Biological study)
(in leaves of **Ginkgo** biloba and Pseudotsuga menziesii and Ribes sanguineum)

IT **Ginkgo** biloba
(proanthocyanidins in leaves and leaf cell cultures of)

IT Leaf
(proanthocyanidins in, of **Ginkgo** biloba and Pseudotsuga manziesii and Ribes sanguineum)

IT Plant hormones and regulators
RL: BIOL (Biological study)
(auxins, proanthocyanidins in leaves of **Ginkgo** biloba and Pseudotsuga menziesii and Ribes sanguineum response to)

IT **Glycosides**
RL: BIOL (Biological study)
(**flavonoid**, in leaves of **Ginkgo** biloba and Pseudotsuga menziesii and Ribes sanguineum)

IT 27200-12-0, Dihydromyricetin
RL: BIOL (Biological study)
(as procyanidin precursor in **Ginkgo** biloba)

IT 154-23-4, Catechin 490-46-0, Epicatechin 970-73-0, Gallocatechin 970-74-1, Epigallocatechin
RL: BIOL (Biological study)
(in leaves and leaf-derived culture of **Ginkgo** biloba and Pseudotsuga menziesii and Ribes sanguineum)

IT 86-87-3, Naphthaleneacetic acid 94-75-7, 2,4-Dichlorophenoxyacetic acid, biological studies
RL: BIOL (Biological study)
(proanthocyanidins in leaves and cultures of **Ginkgo** biloba and Pseudotsuga menziesii and Ribes sanguineum response to)

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L2        373214 SEA FILE=WPIDS ABB=ON  PLU=ON  EXT## OR EXTRACT?
L3           686 SEA FILE=WPIDS ABB=ON  PLU=ON  L1 (S) L2
L4          8478 SEA FILE=WPIDS ABB=ON  PLU=ON  ULTRAFILT?
L5             3 SEA FILE=WPIDS ABB=ON  PLU=ON  L3 AND L4
L6            77 SEA FILE=WPIDS ABB=ON  PLU=ON  TERPENLACTONE? OR TERPEN? (3A)
                 LACTONE?
L7           639 SEA FILE=WPIDS ABB=ON  PLU=ON  TERPENOID#
L8           348 SEA FILE=WPIDS ABB=ON  PLU=ON  GLYCOSIDE# (S) (FLAVON?)
L9             4 SEA FILE=WPIDS ABB=ON  PLU=ON  L1 AND (L7 AND L8)
L10        61858 SEA FILE=WPIDS ABB=ON  PLU=ON  (HIGH OR LARGE) (3A) (AMOUNT OR
                 AMT## OR CONTENT)
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L12            1 SEA FILE=WPIDS ABB=ON  PLU=ON  L11 AND (L6 OR L7) AND  L8
L13            8 SEA FILE=WPIDS ABB=ON  PLU=ON  L11 AND (L6 OR L7 OR L8)
L14           13 SEA FILE=WPIDS ABB=ON  PLU=ON  L5 OR L9 OR L12 OR L13


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L14  ANSWER 1 OF 13  WPIDS  COPYRIGHT 2005 THE THOMSON CORP on STN
AN   2005-021850 [03]   WPIDS
DNC  C2005-007431
TI   Method of extracting terpene lactone from folium
     ginkgo leaves and product.
DC   B03
IN   DAI, B; GONG, T; QIAN, J
PA   (SANJ-N) SANJIANGYUAN PHARM CO LTD SUIZHOU CITY
CYC  1
PI   CN 1530363      A  20040922 (200503)*
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ADT CN 1530363 A CN 2003-119744 20030311
PRAI CN 2003-119744 20030311
AB CN 1530363 A UPAB: 20050112
NOVELTY - A process for extracting terpeniod ginkalide from **ginkgo** leaf and a product which is prepared by extracting in alcohol and resin concentrating and has **high content** of ginkalide are disclosed. Its advantages are low cost and less environmental pollution. Said product can be used for treating senile dementia and cardiovascular and cerebrovascular diseases.
Dwg.0/0

L14 ANSWER 2 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2004-507689 [48] WPIDS
DNC C2004-187877
TI Preparation of organic **extract** of **Ginkgo** with specific contents of total flavone and ginkgolide and water solubility, for use in pharmaceuticals and foods for preventing or treating e.g. heart or brain diseases.
DC B02
IN FU, Y
PA (PROH-N) PRO-HERB GMBH
CYC 100
PI WO 2004056792 A1 20040708 (200448)* ZH 18
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
AU 2002349731 A1 20040714 (200474)
ADT WO 2004056792 A1 WO 2002-CN802 20021111; AU 2002349731 A1 AU 2002-349731 20021111, WO 2002-CN802 20021111
FDT AU 2002349731 A1 Based on WO 2004056792
PRAI WO 2002-CN802 20021111
AB WO2004056792 A UPAB: 20040728
NOVELTY - A **Ginkgo extract** contains not less than 12 weight% total flavone and not less than 4 weight% ginkgolide with respect to the effective ingredients, which has water solubility of not less than 1.2 g/100 ml.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for preparing the **Ginkgo extract** by using water without organic solvents and heavy metal salts comprising soaking **Ginkgo** leaves in saturated lime water then **extracting** with pure water, filtering the aqueous **extract** and osmosis to remove polymers, and adsorption chromatography of the filtrate to eliminate allergenic substances like alkylphenols.
ACTIVITY - Cardiant; Cerebroprotective.
MECHANISM OF ACTION - None given in source material.
USE - The extracts are for use in pharmaceuticals and foods (both claimed) for preventing or treating e.g. heart or brain diseases, particularly in the forms of drugs, quasi medicines, healthcare products, food-additives and cosmetics.
ADVANTAGE - Such extracts are free from organic solvents and heavy metals, and reduced in allergenic ginkgolic acids.
Dwg.0/3
TECH UPTX: 20040728
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred **Extracts**: The content of ginkgolic acids in such **extract** is not more than 5

ppm and that of lead is not more than 3 ppm particularly free of lead. Preferred Process: The water used is ionized water obtained by electroionization treatment, which has pH at 7-10. The **ultrafiltration** is conducted for grading the **extract** into molecule weights of 10,000, 6,000 and 2,000 with use of the respective **ultrafiltration** membranes. Pressure applied during the osmotic filtration is 4.5 MPa. The adsorption column is a large-bore resin or active charcoal column, preferably an active charcoal column which is made from **Ginkgo** shells.

L14 ANSWER 3 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2004-441522 [42] WPIDS
DNC C2004-165662
TI Preparation of ginkgo leaf powder for injection comprises eliminating macro molecules, pyretogen, particle, microbe and other impurities.
DC B04
IN DAI, J; LI, X; PENG, G
PA (JIAN-N) JIANGSU YANGZI PHARM IND GROUP CORP LTD
CYC 1
PI CN 1486715 A 20040407 (200442)*
ADT CN 1486715 A CN 2003-131959 20030623
PRAI CN 2003-131959 20030623
AB CN 1486715 A UPAB: 20040702
NOVELTY - The **ginkgo** leaf powder for injection contains **ginkgo extract** 1 (weight portions), hydroxypropyl betacyclodextrin 1-4 and pH regulator meglumine or sodium bicarbonate 0.02-0.08. The process includes mixing **ginkgo extractive**, hydroxypropyl betacyclodextrin and pH regulator; filtering and **ultrafiltering** and direct bacteria-free freeze drying or spray drying of the **ultrafiltered** liquid.
DETAILED DESCRIPTION - The **ginkgo** leaf powder for injection contains **ginkgo extractive** 1 weight portions, hydroxypropyl betacyclodextrin 1-4 weight portions and pH regulator meglumine or sodium bicarbonate 0.02-0.08 weight portions. The preparation process includes mixing **ginkgo extractive**, hydroxypropyl betacyclodextrin and pH regulator; filtering and **ultrafiltering** with 50000-150000 dalton **ultrafiltering** film; and direct bacteria-free freeze drying or spray drying of the **ultrafiltered** liquid to obtain the powder for injection. The said preparation process of the present invention can maintain fully the effective components while eliminating macro molecules, pyretogen, particle, microbe and other impurities to raise the safety and stability of the preparation obviously.
Dwg.0/0

L14 ANSWER 4 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2004-000224 [01] WPIDS
DNC C2004-000159
TI **High content ginkgo** extract and process for producing same.
DC B04
IN GUAN, G; SHI, Y; YANG, Y
PA (SHIY-I) SHI Y
CYC 1
PI CN 1435424 A 20030813 (200401)*
ADT CN 1435424 A CN 2003-117443 20030313
PRAI CN 2003-117443 20030313
AB CN 1435424 A UPAB: 20040102
NOVELTY - A **high-content ginkgo** extract for invigorating the pulse-beat and promoting blood circulation contains

flavone glycoside (31-40%) and lactone (11-15%) and is prepared from **ginkgo** leaf through extracting in 60% acetone, vacuum concentrating, depositing in water, centrifugal separation, chromatography, separating by ionic exchange column, eluting, collecting and refining. Its advantages are high curative effect and low cost. Dwg.0/0

L14 ANSWER 5 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2003-789494 [75] WPIDS
DNC C2003-218067
TI Extractant, extraction process and analysis method of high-activity **ginkgo** leaf extractive.
DC B04
IN HU, W; XIE, B; YANG, E
PA (UYMI-N) UNIV MID-CHINA AGRIC
CYC 1
PI CN 1436784 A 20030820 (200375)*
ADT CN 1436784 A CN 2002-115533 20020207
PRAI CN 2002-115533 20020207
AB CN 1436784 A UPAB: 20031120
NOVELTY - The present invention is extractant, extraction process and analysis method of high-activity **ginkgo** leaf extractive. The key point of the present invention is one developed extractant for water extraction process of ginkgetin and EGb and the process has no step of eliminating ginkolic acid. These also includes one efficient liquid-phase chromatographic method for the quantitative analysis of ginkolic acid with secondary chemical balance. The product contains total **flavone glycoside** 24-32%, total **terpenoid** lactone 6-13%, protocyanidine 8-14% and ginkolic acid less than 5 ppm, and has yield of 2.8-3.6%. The extractant has low cost, small consumption, no residue, high stripping rate of **flavones**, **terpenoid** lactones and protocyanidin compound and has stripping of ginkolic acid. Dwg.0/0

L14 ANSWER 6 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2002-241610 [29] WPIDS
DNC C2002-072682
TI Composition useful for inhibiting angiogenesis comprises ticlopidine and **Ginkgo** biloba extract.
DC B03 B04
IN KIM, M Y; MUN, C H; PARK, B Y; KIM, M; MOON, C; PARK, B; MOON, C H
PA (ANGI-N) ANGIOLAB INC; (KIMM-I) KIM M; (MOON-I) MOON C; (PARK-I) PARK B
CYC 96
PI WO 2002009708 A1 20020207 (200229)* EN 12
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001075809 A 20020213 (200238)
KR 2002010230 A 20020204 (200254)
US 2003165586 A1 20030904 (200359)
ADT WO 2002009708 A1 WO 2001-KR1280 20010727; AU 2001075809 A AU 2001-75809 20010727; KR 2002010230 A KR 2000-43589 20000728; US 2003165586 A1 WO 2001-KR1280 20010727, US 2003-343146 20030127
FDT AU 2001075809 A Based on WO 2002009708
PRAI KR 2000-43589 20000728
AB WO 200209708 A UPAB: 20020508
NOVELTY - A composition comprises ticlopidine and **Ginkgo** biloba

extract for inhibiting angiogenesis.

ACTIVITY - Antiseborrheic; Dermatological; Antiarthritic; Antidiabetic; Ophthalmological; Antipsoriatic; Vasotropic; Antiinflammatory; Cytostatic; Anti-angiogenic.

MECHANISM OF ACTION - Angiogenesis inhibitor.

Human umbilical vein endothelial cells (HUVECs) were isolated from cords digested with 0.1% collagenase (Grant D S, et al., Cell, 58, 933-943(1989)). The cells were grown in M199 medium containing 20% fetal bovine serum, ECGS, heparin and penicillin-streptomycin. Cells between 3 - 5 passages were used for the test. The tube formation assay was performed by coating 48-well plates with Matrigel (0.2 ml) and incubated at 37 deg. C for 1 hour. 4-6 multiply 104 HUVECs resuspended in M199 medium were added to each well. Ticlopidine and **Ginkgo** biloba extract, a standardized extract containing 24% **flavonoid glycosides** and 6% **terpenoid** (test) were added to the Matrigel. The final concentration of ticlopidine was (25 mu M) and **Ginkgo** biloba extract was (5 mu g/ml). A control (A) was prepared without ticlopidine and **Ginkgo** biloba extract. Ticlopidine (B) and **Ginkgo** biloba extract (C) alone were also used as the controls. The total tube area (%) for the test/controls (A)/(B)/(C) was 66/100/91/89 respectively. The results showed that the test had an inhibitory effect on the HUVEC tube formation, which was higher than that of the controls.

USE - In the manufacture of a medicine for inhibiting angiogenesis; for treating a disease such as angioma, angiofibroma, arthritis, diabetic retinopathy, premature infant's retinopathy, neovascular glaucoma, corneal disease, involutional macula, degeneration of macula, pterygium, retinal degeneration, retrolental fibroplasias, granular conjunctivitis, psoriasis, telangiectasis, pyogenic granuloma, seborrheic dermatitis, acne, cancer and metastasis (all claimed).

ADVANTAGE - The composition shows synergistic effects of enhancing anti-angiogenic activity beyond the level expected when ticlopidine or **Ginkgo** biloba extract is used alone and reducing the cellular toxicity of ticlopidine. The composition does not cause any adverse side effects and provides a quick, sustained or delayed release of the active ingredient after its administration to a mammal.

Dwg.0/1

TECH UPTX: 20020508

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: The composition comprises (wt.%): ticlopidine (30 - 90) and **Ginkgo** biloba extract (10 - 70).

L14 ANSWER 7 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2001-418893 [45] WPIDS
DNC C2001-126894
TI Process for extracting ginkgolic total flavone.
DC B05
IN BA, W
PA (BAWW-I) BA W
CYC 1
PI CN 1293191 A 20010502 (200145)*
ADT CN 1293191 A CN 2000-129807 20001024
PRAI CN 2000-129807 20001024
AB CN 1293191 A UPAB: 20010813

NOVELTY - A process for extracting **ginkgo** total **flavone** includes such steps as defatting, preparing the deposit of **flavonoid**, displacing **flavone**, recovering alcohol and drying. Its advantages are high purity upto 49.8% of **flavone glycoside content**, simple operation, and **high** safety and speed.

Dwg.0/0

L14 ANSWER 8 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2000-117739 [11] WPIDS
DNC C2000-036253
TI Water-soluble dry plant extracts, useful in medicines, cosmetics or dietetic foods.
DC B04 D13 D21
IN GRETHLEIN, E; OSCHMANN, R; ERDELMEIER, C; STUMPF, K; SUDECK, A
PA (SCHW-N) SCHWABE GMBH & CO WILLMAR
CYC 23
PI DE 19829516 A1 20000105 (200011)* 7
WO 2000001397 A1 20000113 (200011) GE
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP US
AU 9954069 A 20000124 (200027)
EP 1089748 A1 20010411 (200121) GE
R: AT BE CH DE ES FR GB IT LI NL
AU 745660 B 20020328 (200235)
JP 2002519383 W 20020702 (200246) 20
EP 1089748 B1 20030604 (200344) GE
R: AT BE CH DE ES FR GB IT LI NL
DE 59905853 G 20030710 (200347)
DE 19829516 B4 20040826 (200456)
ADT DE 19829516 A1 DE 1998-1029516 19980702; WO 2000001397 A1 WO 1999-DE1812 19990619; AU 9954069 A AU 1999-54069 19990619; EP 1089748 A1 EP 1999-939923 19990619, WO 1999-DE1812 19990619; AU 745660 B AU 1999-54069 19990619; JP 2002519383 W WO 1999-DE1812 19990619, JP 2000-557843 19990619; EP 1089748 B1 EP 1999-939923 19990619, WO 1999-DE1812 19990619; DE 59905853 G DE 1999-505853 19990619, EP 1999-939923 19990619, WO 1999-DE1812 19990619; DE 19829516 B4 DE 1998-1029516 19980702
FDT AU 9954069 A Based on WO 2000001397; EP 1089748 A1 Based on WO 2000001397; AU 745660 B Previous Publ. AU 9954069, Based on WO 2000001397; JP 2002519383 W Based on WO 2000001397; EP 1089748 B1 Based on WO 2000001397; DE 59905853 G Based on EP 1089748, Based on WO 2000001397
PRAI DE 1998-19829516 19980702
AB DE 19829516 A UPAB: 20000301
NOVELTY - New water-soluble, native dry **extracts** (I) of plant parts, especially **Ginkgo** biloba leaves, consist entirely of contents of the plant parts and are free from solubilizers and galenic auxiliaries.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the preparation of (I).

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - (I) are used for the preparation of medicines, cosmetics and/or dietetic foods (all claimed). No details of specific applications are given.

ADVANTAGE - (I) is completely water-soluble; has a **high content** of the relevant active components (specifically **terpenoids** and **flavone glycosides** in the case of **Ginkgo** biloba leaf **extracts**); is free of additives (which could case problems such as complexing and inhibition of release of gingkolides); can be prepared simply and inexpensively; and specifically may have higher percentage content of **terpene lactones** and **flavone glycosides** than the crude drug (claimed).

Dwg.0/1
TECH UPTX: 20000301
TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Extract: (I) is:
(i) a dried primary extract (crude extract);
(ii) a dry extract which has been partially purified by removal of

extraction solvents and components which precipitate from aqueous solution in the cold; or
(iii) a dry extract which has been purified as in (b) and further purified by removal of unwanted components by precipitation reactions, adsorption and desorption, extraction with butanol or other purification methods.
Specifically (I) contains (by weight) at least 20 % **flavone glycosides**, at least 5 % **terpene lactones** and
at most 5 ppm ginkgolic acids; or at least 22-27 % **flavone glycosides**, at least 5-7 % **terpene lactones**,
at least 2.8-3.4 % ginkgolides A, B and C, at least 2.6-3.2% bilobalides and at most 5 ppm ginkgolic acids.
Preparation: Claimed preparation of (I) involves:
(a) preparing a liquid aqueous alcoholic extract or dry extract by conventional methods;
(b) taking up the extract (if dry) in water and/or organic solvent, preferably in aqueous alcohol;
(c) subjecting the (preferably aqueous alcoholic) extract solution to **ultrafiltration** through a filter having an average pore size of 2000-10000 Daltons; and
(d) separating the organic solvent(s) and optionally drying the **ultrafiltrate.**
Preferably stage (a) involves obtaining a crude extract by extracting the plant parts with aqueous alcohol or aqueous ketone, removing the extraction solvent, removing unwanted (specifically lipophilic) components by precipitation using addition of water and cooling, and further purifying to remove unwanted components and enrich the desired components (by precipitation reactions, adsorption and desorption, extraction with butanol or other purification methods), removing the solvent(s) and drying.

L14 ANSWER 9 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 1997-294865 [27] WPIDS
DNC C1997-095224
TI Glutathione-S-transferase containing Gingko biloba leaves - is useful for glutathione-S-transferase activating food, drinks or pharmaceuticals.
DC B04 D13
PA (NIGR-N) NIPPON GREEN WAVE KK
CYC 1
PI JP 09110713 A 19970428 (199727)* 5
ADT JP 09110713 A JP 1995-265843 19951013
PRAI JP 1995-265843 19951013
AB JP 09110713 A UPAB: 19970702
Glutathione-S-transferase activator comprises extract of **Ginkgo** biloba leaves. Also claimed are: (A) a glutachione-S-transferase activator comprising bilohalide; (B) a glutathione-S-transferase activator comprising ginkgolide A; and (C) a glutathione-S-transferase activator comprising an extract of Gingko biloba leaves and bilohalide, ginkgolide A, or th both. USE/ADVANTAGE - Used for glutathione-S-transferase activating food and drinks or pharmaceuticals. The activator prevents cancer. In an example, to crushed dry Gingko biloba leaves (500g), 70% aqueous ethanol (2500 ml) was added. The mixture was heated to 50 deg.C for 30 hours and filtered to give a first extract and a first extraction residue. To the first extraction residue, 70% aqueous etanol (2000ml) was added. The mixture was heated to 50 deg.C for 3 hours and filtered to give a second extract and a second extraction residue. To the second extraction residue, 70% aqueous ethanol (2000ml) was added, and the mixture was heated to 50 deg.C for 3 hours and filtered to give a third extract and a third extraction residue. The first, second, and third extract were mixed (total 6000ml) and concentrated under reduced pressure to approximately 500ml. To the concentrate water (500ml) was added and the mixture was

stirred and filtered to separate th precipitated hydrophobic substances. The resulting filtrate was loaded onto a column packed with unsubstituted porous resin (HP-20) (500ml) to adsorb the desired extract. The column was washed with water (1000ml). The extract was eluted with 70% aqueous ethanol (1000ml). The eluant (1000ml) was concentrated to dryness under reduced pressure to give the extract of Gingko biloba leaves (15g) containing **flavone glycoside** (24%) and **terpenoid** (6%).
Dwg.0/0

L14 ANSWER 10 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 1991-172350 [24] WPIDS
DNC C1991-074470
TI Extracts from **Ginkgo** biloba leaves - with **high content** of **flavone glycoside**(s) and ginkgolide(s) but with low alkyl phenol(s) content.
DC B04
IN SCHWABE, K P
PA (SCHW-N) SCHWABE W & CO GMBH
CYC 1
PI DE 3940095 A 19910606 (199124)*
ADT DE 3940095 A DE 1989-3940095 19891204
PRAI DE 1989-3940095 19891204
AB DE 3940095 A UPAB: 19930928
Novel extracts from the leaves of **Ginkgo** biloba are practically free from alkyl phenols, have a **high content** of **flavone glycosides** and contain most of the ginkgolides and bilobalide originally present in the leaves.

Pref. the extracts contain 14-22 (especially 16-18) weight% **flavone glycosides**, 1.6-3wt.% total ginkgolides A, B, C and J, 1.4-2.7 weight% bilobalide and less than 10 ppm (especially less than 1 ppm) alkyl phenols.

USE/ADVANTAGE - The extracts promote circulation, inhibit ischaemic damage and aggregation of radical acceptors and thrombocytes. The extracts are especially useful in the therapy of peripheral and cerebral arterial disorders of the circulation. Removal of the alkyl phenols (which are associated with allergies) is achieved without the need to use the chlorinated hydrocarbons necessary in previous processes and thus the associated risks to the environment and the presence of residues in the pharmaceutical are avoided.
0/0

L14 ANSWER 11 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 1991-172349 [24] WPIDS
DNC C1991-074469
TI Enriched extracts of **Ginkgo** biloba - with **high flavone glycoside content**, and opt. **high** Ginkgolide(s) **content** and opt. **high** bilobalide **content.**
DC B04
IN JAGGY, H; OREILLY, J; O'REILLY, J
PA (MONT-N) MONTANA LTD; (WALL-N) WALLINGSTOWN CO LTD
CYC 18
PI DE 3940094 A 19910606 (199124)*
EP 436129 A 19910710 (199128)
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
CA 2031384 A 19910605 (199133)
JP 03264533 A 19911125 (199202)
DE 3940094 C 19920702 (199227) 6
US 5389370 A 19950214 (199512) 6

EP 436129 B1 19950412 (199519) EN 10
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69018601 E 19950518 (199525)
ES 2070981 T3 19950616 (199531)
JP 2503107 B2 19960605 (199627) 6
KR 175067 B1 19990201 (200039)
CA 2031384 C 20020625 (200252) EN
ADT DE 3940094 A DE 1989-3940094 19891204; EP 436129 A EP 1990-123140 19901203; JP 03264533 A JP 1990-400222 19901203; DE 3940094 C DE 1989-3940094 19891204; US 5389370 A Cont of US 1990-623861 19901204, US 1992-909137 19920706; EP 436129 B1 EP 1990-123140 19901203; DE 69018601 E DE 1990-618601 19901203, EP 1990-123140 19901203; ES 2070981 T3 EP 1990-123140 19901203; JP 2503107 B2 JP 1990-400222 19901203; KR 175067 B1 KR 1990-19827 19901204; CA 2031384 C CA 1990-2031384 19901203
FDT DE 69018601 E Based on EP 436129; ES 2070981 T3 Based on EP 436129; JP 2503107 B2 Previous Publ. JP 03264533
PRAI DE 1989-3940094 19891204
AB DE 3940094 A UPAB: 19970502
Novel extracts from the leaves of **Ginkgo** biloba contain 40-60 (pref. 45-55)% **flavone glycosides**, 5.5-8.0 (pref. 7.0)% ginkgolides A, B, C and J, 5.0-7.0 (pref. 6.0)% bilobalide, less than 10% proanthocyanidines and at most 10 ppm (pref. less than 1 ppm) alkyl phenols.

Extracts of the above composition but containing less than 0.1% bilobalide, or (c) of the above compsn. but containing at most 0.1% ginkgolides are also new.

USE/ADVANTAGE - The extracts can be used in the therapy of peripheral and cerebral arterial disorders of the circulation (extract (A)) in the therapy of illnesses in which the platelet activating factor plays a pathogenic (extract (B)) and against demyelinising neuropathia and brain oedema (extract (C)). The enriched concentrates can be used in smaller daily doses than previous extracts and can be used in countries with high requirements of pharmaceutical quality. Removal of ineffective components in the safety of use and allows for more exact analytical determination of the main components. The low content of alkyl phenols means there is practically no danger of allergic reactions. @(6pp Dwg.No.0/0)

L14 ANSWER 12 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 1991-172348 [24] WPIDS
DNC C1991-074468
TI Extracts from **Ginkgo** biloba leaves - with **high content** of **flavone glycoside**(s) and ginkgolide(s) but with low alkyl phenol(s) content.
DC B04
IN SCHWABE, K P; SCHWABE, K
PA (SCHW-N) SCHWABE W & CO GMBH; (SCHW-N) SCHWABE GMBH & CO WILLMAR
CYC 19
PI DE 3940092 A 19910606 (199124)*
EP 431536 A 19910612 (199124)
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
CA 2031386 A 19910605 (199133)
DE 3940092 C 19910919 (199138)
JP 03279332 A 19911210 (199204)
ES 2024399 A 19920301 (199214)
US 5322688 A 19940621 (199424) 5
JP 07025687 B2 19950322 (199516) 5
EP 431536 B1 19950719 (199533) EN 7
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69021019 E 19950824 (199539)
ES 2024399 T3 19950916 (199543)

BR 1100103 A3 19970819 (199739)
KR 185575 B1 19990501 (200052)
ADT DE 3940092 A DE 1989-3940092 19891204; EP 431536 A EP 1990-123142 19901203; JP 03279332 A JP 1990-400221 19901203; US 5322688 A Cont of US 1990-624177 19901204, US 1992-899016 19920615; JP 07025687 B2 JP 1990-400221 19901203; EP 431536 B1 EP 1990-123142 19901203; DE 69021019 E DE 1990-621019 19901203, EP 1990-123142 19901203; ES 2024399 T3 EP 1990-123142 19901203; BR 1100103 A3 BR 1996-1100103 19961219; KR 185575 B1 KR 1990-19826 19901204
FDT JP 07025687 B2 Based on JP 03279332; DE 69021019 E Based on EP 431536; ES 2024399 T3 Based on EP 431536
PRAI DE 1989-3940092 19891204
AB DE 3940092 A UPAB: 19930928
Novel extracts from the leaves of **Ginkgo** biloba are practically free from alkyl phenols, have a **high content** of **flavone glycosides** and contain most of the ginkgolides and bilobalide originally present in the leaves.

Pref. the extracts contain 20-30 (especially 22-26) weight% flavone glycosids, 2.5-4.6 weight% total ginkgolides A, B, C and J, 2.0-4.0 weight% bilobalide, less than 10 ppm (especially less than 1 ppm) alkyl phenols and less than 10 weight% proanthocyanidine.

USE/ADVANTAGE - The extracts promote circulation, inhibit ischaemic damage and aggregation of radical acceptors and thrombocytes. The extracts are especially useful in the therapy of peripheral and cerebral arterial disorders of the circulation. Removal of the alkyl phenols (which are associated with allergies) is achieved without the need to use the chlorinated hydrocarbons necessary in previous processes and thus the associated risks to the environment and the presence of residues in the pharmaceutical are avoided. Removal of tannin-like substances (proanthhthocyanidine) achieved without the need to use lead cpds, thus reducing health risks to the work force and reducing costs.
0/0

L14 ANSWER 13 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 1991-172347 [24] WPIDS
DNC C1991-074467
TI Extracts from **Ginkgo** biloba leaves - with **high content** of **flavone glycoside**(s) and ginkgolide(s) and bilobalide but with low alkyl phenol(s) content.
DC A96 B04
IN SCHWABE, K P
PA (SCHW-N) SCHWABE W GMBH; (SCHW-N) SCHWABE W & CO GMBH
CYC 18
PI DE 3940091 A 19910606 (199124)*
EP 431535 A 19910612 (199124)
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
CA 2031385 A 19910605 (199133)
DE 3940091 C 19910919 (199138)
JP 03279331 A 19911210 (199204)
ES 2024400 A 19920301 (199214)
EP 431535 B1 19940302 (199409) EN 12
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69007035 E 19940407 (199415)
ES 2024400 T3 19940416 (199419)
US 5399348 A 19950321 (199517) 5
JP 07076176 B2 19950816 (199537) 5
KR 154977 B1 19981116 (200029)
CA 2031385 C 20010918 (200157) EN
ADT DE 3940091 A DE 1989-3940091 19891204; EP 431535 A EP 1990-123141

19901203; JP 03279331 A JP 1990-400220 19901203; EP 431535 B1 EP 1990-123141 19901203; DE 69007035 E DE 1990-607035 19901203, EP 1990-123141 19901203; ES 2024400 T3 EP 1990-123141 19901203; US 5399348 A Cont of US 1990-625729 19901204, US 1992-905167 19920624; JP 07076176 B2 JP 1990-400220 19901203; KR 154977 B1 KR 1990-19825 19901204; CA 2031385 C CA 1990-2031385 19901203

FDT DE 69007035 E Based on EP 431535; ES 2024400 T3 Based on EP 431535; JP 07076176 B2 Based on JP 03279331

PRAI DE 1989-3940091 19891204

AB DE 3940091 A UPAB: 19930928

Novel extracts from the leaves of **Ginkgo** biloba are practically free from alkyl phenols, have a **high content** of **flavone glycosides** and contain most of the ginkgolides and bilobalide originally present in the leaves.

Pref. the extracts contain 20-30 (especially 22-26) weight% **flavone glycosides**, 2.5-4.5 weight% total ginkgolides A, B, C and J, 2.0-4.0 weight% bilobalide, less than 10 ppm (especially less than 1 ppm) alkyl phenols and less than 10 weight% proanthocyanidine.

USE/ADVANTAGE - The extracts promote circulation, inhibit ischaemic damage and aggregation of radical acceptors and thrombocytes. The extracts are especially useful in the therapy of peripheral and cerebral arterial disorders of the circulation. Removal of the alkyl phenols (which are associated with allergies) is achieved without the need to use the chlorinated hydrocarbons necessary in previous processes, and thus the associated risks to the environment and potential residues in the phenol are avoided.

0/0

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=> fil medline embase
FILE 'MEDLINE' ENTERED AT 12:14:49 ON 18 APR 2005

FILE 'EMBASE' ENTERED AT 12:14:49 ON 18 APR 2005
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=> d que l56
L19         2642 SEA FILE=EMBASE ABB=ON  PLU=ON  GINKGO BILOBA EXTRACT/CT
L20        11822 SEA FILE=EMBASE ABB=ON  PLU=ON  ULTRAFILT?
L22        10972 SEA FILE=EMBASE ABB=ON  PLU=ON  FLAVON?
L23        14577 SEA FILE=EMBASE ABB=ON  PLU=ON  GLYCOSIDE?
L24         4670 SEA FILE=EMBASE ABB=ON  PLU=ON  TERPEN?
L25        10199 SEA FILE=EMBASE ABB=ON  PLU=ON  LACTON?
L26           89 SEA FILE=EMBASE ABB=ON  PLU=ON  L19 AND (L22 OR L23) AND (L24
                 OR L25)
L27       116564 SEA FILE=EMBASE ABB=ON  PLU=ON  (HIGH OR INCREASE?) (S)
                 (CONTENT OR AMOUNT OR AMT#)
L29         6833 SEA FILE=EMBASE ABB=ON  PLU=ON  FILTRATION/CT
L31        41413 SEA FILE=EMBASE ABB=ON  PLU=ON  DRUG ISOLATION/CT
L32           10 SEA FILE=EMBASE ABB=ON  PLU=ON  L31 AND L26
L33           77 SEA FILE=EMBASE ABB=ON  PLU=ON  L19 AND L31
L34            1 SEA FILE=EMBASE ABB=ON  PLU=ON  L33 AND (L29 OR L20)
L35            1 SEA FILE=EMBASE ABB=ON  PLU=ON  L27 AND L33
L36          161 SEA FILE=EMBASE ABB=ON  PLU=ON  TERPENE AND FLAVONOID
L37            7 SEA FILE=EMBASE ABB=ON  PLU=ON  L36 AND L33
L38           10 SEA FILE=EMBASE ABB=ON  PLU=ON  L32 OR L34 OR L35 OR L37
L40          711 SEA FILE=MEDLINE ABB=ON  PLU=ON  GINKGO BILOBA /CT
L42         7906 SEA FILE=MEDLINE ABB=ON  PLU=ON  LACTONES/CT
L43       143159 SEA FILE=MEDLINE ABB=ON  PLU=ON  TERPENES+NT/CT
L44        27780 SEA FILE=MEDLINE ABB=ON  PLU=ON  FLAVONOIDS+NT/CT
L48        12323 SEA FILE=MEDLINE ABB=ON  PLU=ON  L43 (L) (AN OR IP)/CT
L49         4441 SEA FILE=MEDLINE ABB=ON  PLU=ON  L44 (L) (AN OR IP)/CT
L50         1518 SEA FILE=MEDLINE ABB=ON  PLU=ON  GINKGO
L51            8 SEA FILE=MEDLINE ABB=ON  PLU=ON  L48 AND L49 AND L50
L52         1077 SEA FILE=MEDLINE ABB=ON  PLU=ON  L42 (L) (AN OR IP)/CT
L53           24 SEA FILE=MEDLINE ABB=ON  PLU=ON  L40 AND L52
L54            3 SEA FILE=MEDLINE ABB=ON  PLU=ON  L53 AND L44
L55            9 SEA FILE=MEDLINE ABB=ON  PLU=ON  L54 OR L51
L56           18 DUP REM L55 L38 (1 DUPLICATE REMOVED)


=> d bib ab ct 1-18

L56  ANSWER 1 OF 18     MEDLINE on STN
AN   2004306883     MEDLINE
DN   PubMed ID: 15186088
TI   Efficient 1H nuclear magnetic resonance method for improved quality
     control analyses of Ginkgo constituents.
AU   Li Chia-Ying; Lin Chun-Hua; Wu Chia-Che; Lee Kuo-Hsiung; Wu Tian-Shung
CS   Department of Chemistry, National Cheng Kung University, Tainan 701,
     Taiwan.
SO   Journal of agricultural and food chemistry, (2004 Jun 16) 52 (12) 3721-5.
     Journal code: 0374755. ISSN: 0021-8561.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   200408
ED   Entered STN: 20040624
     Last Updated on STN: 20040804
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Entered Medline: 20040803

AB We developed an analytical method using 1H nuclear magnetic resonance (NMR) spectrometry to resolve analytical problems with **Ginkgo**. After a simple hydrolysis step, an NMR analysis of the terpene trilactone H-12 signals and the flavonol aglycone H-2' (or H-2'/6' for kaempferol) signals was performed. By comparing the solvent effects on the resolution of these signals, methanol-d4-benzene-d6 (65:35) was selected as the optimal 1H NMR solvent. The amounts of terpene lactones and flavonol aglycones in various commercial **Ginkgo** products and **Ginkgo** leaves were determined. This newly developed 1H NMR method enables the simultaneous analysis of terpene trilactones and flavonols and allows simple, rapid quantification of these compounds in pharmaceutical **Ginkgo** preparations.

CT **Flavonols: AN, analysis**
***Ginkgo biloba: CH, chemistry**
Lactones: AN, analysis
*Magnetic Resonance Spectroscopy: MT, methods
Plant Leaves: CH, chemistry
Quality Control
Research Support, Non-U.S. Gov't
Terpenes: AN, analysis

L56 ANSWER 2 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

AN 2004213910 EMBASE

TI Inhibition of human P450 enzymes by multiple constituents of the Ginkgo biloba extract.

AU Gaudineau C.; Beckerman R.; Welbourn S.; Auclair K.

CS K. Auclair, Department of Chemistry, McGill University, 801 Sherbrooke Street West, Montreal, Que. H3A 2K6, Canada. karine.auclair@mcgill.ca

SO Biochemical and Biophysical Research Communications, (11 Jun 2004) Vol. 318, No. 4, pp. 1072-1078.
Refs: 47
ISSN: 0006-291X CODEN: BBRCA

PUI S 0006-291X(04)00909-X

CY United States

DT Journal; Article

FS 030 Pharmacology
037 Drug Literature Index

LA English

SL English

ED Entered STN: 20040617
Last Updated on STN: 20040617

AB The Ginkgo biloba extract EGb761 was tested for its ability to inhibit the major human cytochrome P450 enzymes (CYPs). The full extract was found to strongly inhibit CYP2C9 (K(i)=14±4μg/mL), and to a lesser extent, CYP1A2 (K(i)=106±24μg/mL), CYP2E1 (K (i)=127±42μg/mL), and CYP3A4 (K(i)= 155±43μg/mL). The **terpenoidic** and **flavonoidic** fractions of the extract were tested separately against the same P450s to identify the source of inhibition by EGb761. The **terpenoidic** fraction inhibited only CYP2C9 (K (i)=15±6μg/mL) whereas the **flavonoidic** fraction of EGb761 showed high inhibition of CYP2C9, CYP1A2, CYP2E1, and CYP3A4 (K(i)'s between 4.9 and 55μg/mL). The **flavonoidic** fraction was further fractionated using extraction and chromatography. Inhibition studies indicated that the majority of these fractions inhibited P450s at a significant level (IC (50)<40μg/mL).

CT Medical Descriptors:
enzyme inhibition

fractionation
drug isolation
chromatography
statistical significance
microsome
medicinal plant
Ginkgo biloba
human
controlled study
human cell
article
priority journal
Drug Descriptors:
***Ginkgo biloba extract: PD, pharmacology**
*cytochrome P450: EC, endogenous compound
cytochrome P450 2C9: EC, endogenous compound
cytochrome P450 1A2: EC, endogenous compound
cytochrome P450 2E1: EC, endogenous compound
cytochrome P450 3A4: EC, endogenous compound
terpenoid derivative: PD, pharmacology
flavanoid: PD, pharmacology

L56 ANSWER 3 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 2004367716 EMBASE
TI Inhibition of human cytochromes P450 by components of Ginkgo biloba.
AU von Moltke L.L.; Weemhoff J.L.; Bedir E.; Khan I.A.; Harmatz J.S.; Goldman P.; Greenblatt D.J.
CS L.L. von Moltke, Dept. of Pharmacol./Exp. Therapeut., Tufts University School of Medicine, 136 Harrison Avenue, Boston, MA 02111, United States. lisa.vonmoltke@tufts.edu
SO Journal of Pharmacy and Pharmacology, (2004) Vol. 56, No. 8, pp. 1039-1044.
Refs: 43
ISSN: 0022-3573 CODEN: JPPMAB
CY United Kingdom
DT Journal; Article
FS 029 Clinical Biochemistry
030 Pharmacology
037 Drug Literature Index
LA English
SL English
ED Entered STN: 20040916
Last Updated on STN: 20040916
AB The extraction, isolation and characterization of 29 natural products contained in Ginkgo biloba have been described, which we have now tested for their in-vitro capacity to inhibit the five major human cytochrome P450 (CYP) isoforms in human liver microsomes. Weak or negligible inhibitory activity was found for the **terpene** trilactones (ginkgolides A, B, C and J, and bilobalide), and the **flavonol glycosides.** However 50% inhibitory activity (IC50) was found at concentrations less than 10 μg mL(-1) for the **flavonol** aglycones (kaempferol, quercetin, apigenin, myricetin, tamarixetin) with CYP1A2 and CYP3A. Quercetin, the biflavone amentoflavone, sesamin, as well as Z,Z)-4,4'-(1,4-pentadiene-1,5-diyl)diphenol and 3-nonadec-8-enyl-benzene-1,2-diol, were also inhibitors of CYP2C9. The IC50 of amentoflavone for CYP2C9 was 0,019 μg mL(-1) (0.035 μM). Thus, the principal components of Ginkgo biloba preparations in clinical use (**terpene** trilactones and **flavonol glycosides**) do not significantly inhibit these human CYPs

in-vitro. However, **flavonol** aglycones, the biflavonol amentoflavone and several other non-glycosidic constituents are significant in-vitro inhibitors of CYP. The clinical importance of these potential inhibitors will depend on their amounts in ginkgo preparations sold to the public, and the extent to which their bioavailability allows them to reach the CYP enzymes in-situ. .COPYRGT. 2004 The Authors.

CT Medical Descriptors:
enzyme inhibition
drug isolation
in vitro study
liver microsome
IC 50
concentration response
drug mechanism
drug structure
human
controlled study
human cell
article
Drug Descriptors:
*cytochrome P450 isoenzyme: EC, endogenous compound
***Ginkgo biloba extract: AN, drug analysis**
***Ginkgo biloba extract: CB, drug combination**
***Ginkgo biloba extract: DV, drug development**
***Ginkgo biloba extract: EC, endogenous compound**
***Ginkgo biloba extract: PD, pharmacology**
terpene derivative: AN, drug analysis
terpene derivative: CB, drug combination
terpene derivative: CM, drug comparison
terpene derivative: DV, drug development
terpene derivative: PD, pharmacology
lactone derivative: AN, drug analysis
lactone derivative: CB, drug combination
lactone derivative: CM, drug comparison
lactone derivative: DV, drug development
lactone derivative: PD, pharmacology
ginkgolide A: AN, drug analysis
ginkgolide A: CB, drug combination
ginkgolide A: CM, drug comparison
ginkgolide A: DV, drug development
ginkgolide A: PD, pharmacology
ginkgolide B: AN, drug analysis
ginkgolide B: CB, drug combination
ginkgolide B: CM, drug comparison
ginkgolide B: DV, drug development
ginkgolide B: PD, pharmacology
ginkgolide C: AN, drug analysis
ginkgolide C: CB, drug combination
ginkgolide C: CM, drug comparison
ginkgolide C: DV, drug development
ginkgolide C: PD, pharmacology
ginkgolide J: AN, drug analysis
ginkgolide J: CB, drug combination
ginkgolide J: CM, drug comparison
ginkgolide J: DV, drug development
ginkgolide J: PD, pharmacology
bilobalide: AN, drug analysis
bilobalide: CB, drug combination
bilobalide: CM, drug comparison
bilobalide: DV, drug development

bilobalide: PD, pharmacology
flavonoid glycoside: AN, drug analysis
flavonoid glycoside: CB, drug combination
flavonoid glycoside: CM, drug comparison
flavonoid glycoside: DV, drug development
flavonoid glycoside: PD, pharmacology
kaempferol: AN, drug analysis
kaempferol: CB, drug combination
kaempferol: CM, drug comparison
kaempferol: DV, drug development
kaempferol: PD, pharmacology
quercetin: AN, drug analysis
quercetin: CB, drug combination
quercetin: CM, drug comparison
quercetin: DV, drug development
quercetin: PD, pharmacology
apigenin: AN, drug analysis
apigenin: CB, drug combination
apigenin: CM, drug comparison
apigenin: DV, drug development
apigenin: PD, pharmacology
myricetin: AN, drug analysis
myricetin: CB, drug combination
myricetin: CM, drug comparison
myricetin: DV, drug development
myricetin: PD, pharmacology
flavonol derivative: AN, drug analysis
flavonol derivative: CB, drug combination
flavonol derivative: CM, drug comparison
flavonol derivative: DV, drug development
flavonol derivative: PD, pharmacology
tamarixetin: AN, drug analysis
tamarixetin: CB, drug combination
tamarixetin: CM, drug comparison
tamarixetin: DV, drug development
tamarixetin: PD, pharmacology
4' o methyl apigenin: AN, drug analysis
4' o methyl apigenin: CB, drug combination
4' o methyl apigenin: CM, drug comparison
4' o methyl apigenin: DV, drug development
4' o methyl apigenin: PD, pharmacology
kaempferol glycoside: AN, drug analysis
kaempferol glycoside: CB, drug combination
kaempferol glycoside: CM, drug comparison
kaempferol glycoside: DV, drug development
kaempferol glycoside: PD, pharmacology
quercetin glycoside: AN, drug analysis
quercetin glycoside: CB, drug combination
quercetin glycoside: CM, drug comparison
quercetin glycoside: DV, drug development
quercetin glycoside: PD, pharmacology
luteolin glycoside: AN, drug analysis
luteolin glycoside: CB, drug combination
luteolin glycoside: CM, drug comparison
luteolin glycoside: DV, drug development
luteolin glycoside: PD, pharmacology
bilobetin: AN, drug analysis
bilobetin: CB, drug combination
bilobetin: CM, drug comparison
bilobetin: DV, drug development

bilobetin: PD, pharmacology
cytochrome P450 1A2: EC, endogenous compound
cytochrome P450 3A: EC, endogenous compound
amentoflavone: AN, drug analysis
CT Drug Descriptors:
amentoflavone: CB, drug combination
amentoflavone: CM, drug comparison
amentoflavone: DV, drug development
amentoflavone: PD, pharmacology
sesamin: AN, drug analysis
sesamin: CB, drug combination
sesamin: CM, drug comparison
sesamin: DV, drug development
sesamin: PD, pharmacology
flavone derivative: AN, drug analysis
flavone derivative: CB, drug combination
flavone derivative: CM, drug comparison
flavone derivative: DV, drug development
flavone derivative: PD, pharmacology
4,4' (1,4 pentadiene 1,5 diyl)diphenol: AN, drug analysis
4,4' (1,4 pentadiene 1,5 diyl)diphenol: CB, drug combination
4,4' (1,4 pentadiene 1,5 diyl)diphenol: CM, drug comparison
4,4' (1,4 pentadiene 1,5 diyl)diphenol: DV, drug development
4,4' (1,4 pentadiene 1,5 diyl)diphenol: PD, pharmacology
3 nonadec 8 enylbenzene 1,2 diol: AN, drug analysis
3 nonadec 8 enylbenzene 1,2 diol: CB, drug combination
3 nonadec 8 enylbenzene 1,2 diol: CM, drug comparison
3 nonadec 8 enylbenzene 1,2 diol: DV, drug development
3 nonadec 8 enylbenzene 1,2 diol: PD, pharmacology
cytochrome P450 2C9: EC, endogenous compound
unindexed drug
unclassified drug

L56 ANSWER 4 OF 18 MEDLINE on STN
AN 2003605061 MEDLINE
DN PubMed ID: 14687903
TI Comparative vasodilating actions among terpenoids and flavonoids contained in **Ginkgo** biloba extract.
AU Nishida Seiichiro; Satoh Hiroyasu
CS Department of Pharmacology, Division of Crude and Herbal Medicine, Nara Medical University, Kashihara, Nara 634-8521, Japan.
SO Clinica chimica acta; international journal of clinical chemistry, (2004 Jan) 339 (1-2) 129-33.
Journal code: 1302422. ISSN: 0009-8981.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200403
ED Entered STN: 20031223
Last Updated on STN: 20040401
Entered Medline: 20040331
AB BACKGROUND: Comparative vasodilating actions of the constituents of **Ginkgo** biloba extract (GBE), terpenoids (bilobalide, ginkgolides A, B and C) and flavonoids (quercetin and rutin), were examined using rat aorta ring strips. METHODS: Cumulative administrations of GBE and its constituents were followed with the pretreatment of 5 micromol/l NE. RESULTS: GBE at 0.03 to 3 mg/ml had a potent concentration-dependent relaxation; by 70 +/- 4.5% (n = 6, P < 0.001) at 3 mg/ml. Terpenoids and flavonoids at 0.1 to 100 micromol/l had potent concentration-dependent

relaxation. At 100 micromol/l, bilobalide dilated by 17.6 +/- 3.9% (n = 7, P < 0.05), and ginkgolides A, B and C also caused it to the almost same extent. Quercetin (100 micromol/l) caused a potent vasorelaxation by 49.9 +/- 4.8% (n = 10, P < 0.001). Rutin at 100 micromol/l had weaker vasorelaxation; by 13.7 +/- 3.2% (n = 6, P < 0.01). CONCLUSIONS: All constituents of GBE have the concentration-dependent vasorelaxtant effect. The potency of GBE's action was not made simply by addition of those of the constituents. Each constituent itself would contribute to the GBE-induced vasodilation, although the constituents have the complicated interactions with each other.

CT Check Tags: Comparative Study; In Vitro
Animals
*Aorta: DE, drug effects
Aorta: PH, physiology
Flavonoids: IP, isolation & purification
*Flavonoids: PD, pharmacology
***Ginkgo biloba: CH, chemistry**
*Plant Extracts: CH, chemistry
*Plant Extracts: PD, pharmacology
Plants, Medicinal: CH, chemistry
Rats
Research Support, Non-U.S. Gov't
Terpenes: IP, isolation & purification
*Terpenes: PD, pharmacology
*Vasodilation: DE, drug effects

L56 ANSWER 5 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 2003513823 EMBASE
TI Microphysiometric Measurement of PAF Receptor Responses to Ginkgolides.
AU Krane S.; Kim S.R.; Abrell L.M.; Nakanishi K.
CS K. Nakanishi, Department of Chemistry, Columbia University, New York, NY 10027, United States. kn5@columbia.edu
SO Helvetica Chimica Acta, (2003) Vol. 86, No. 11, pp. 3776-3786.
Refs: 53
ISSN: 0018-019X CODEN: HCACAV
CY Switzerland
DT Journal; Article
FS 027 Biophysics, Bioengineering and Medical Instrumentation
030 Pharmacology
037 Drug Literature Index
LA English
SL English
ED Entered STN: 20040116
Last Updated on STN: 20040116
AB Microphysiometry was used to evaluate the effects of **terpene** trilactone and **flavonoid** constituents of Ginkgo biloba on human platelet-activating-factor receptor (PAFR). Inhibition of the platelet-activating factor response by **terpene** trilactones was confirmed using this functional assay. Ginkgolide B (GB) and 10-O-benzyl-GB showed the strongest inhibition (81 and 93%, resp.) of the PAFR response, while the **flavonoids** rutin, quercetin, and kaempferol showed negligible response inhibition. G. biloba extract mixtures were also tested, and results indicate possible synergistic effects among various components.
CT Medical Descriptors:
*measurement
*microphysiomtery
drug potentiation
drug structure

device
bioassay
drug isolation
nonhuman
controlled study
animal cell
article
priority journal
Drug Descriptors:
*thrombocyte activating factor receptor
*ginkgolide: CM, drug comparison
*ginkgolide: DV, drug development
*ginkgolide: PD, pharmacology
Ginkgo biloba extract: CM, drug comparison
Ginkgo biloba extract: PD, pharmacology
terpene trilactone: CM, drug comparison
terpene trilactone: PD, pharmacology
flavonoid: CM, drug comparison
flavonoid: PD, pharmacology
ginkgolide B: CM, drug comparison
ginkgolide B: DV, drug development
ginkgolide B: PD, pharmacology
10 o benzylginkgolide B: CM, drug comparison
10 o benzylginkgolide B: DV, drug development
10 o benzylginkgolide B: PD, pharmacology
rutoside: CM, drug comparison
rutoside: PD, pharmacology
quercetin: CM, drug comparison
quercetin: PD, pharmacology
kaempferol: CM, drug comparison
kaempferol: PD, pharmacology
thrombocyte activating factor derivative: CM, drug comparison
thrombocyte activating factor derivative: PD, pharmacology
apafant: CM, drug comparison
apafant: PD, pharmacology
ginkgolide derivative: CM, drug comparison
ginkgolide derivative: PD, pharmacology
ginkgolide m: CM, drug comparison
ginkgolide m: DV, drug development
ginkgolide m: PD, pharmacology
bilobalide: CM, drug comparison
bilobalide: DV, drug development
bilobalide: PD, pharmacology
ginkgolide A: CM, drug comparison
ginkgolide A: DV, drug development
ginkgolide A: PD, pharmacology
ginkgolide C: CM, drug comparison
ginkgolide C: DV, drug development
ginkgolide C: PD, pharmacology
ginkgolide J: CM, drug comparison
ginkgolide J: DV, drug development
ginkgolide J: PD, pharmacology
unclassified drug
bioginkgo
terbonin forte

L56 ANSWER 6 OF 18 EMBASE
on STN
AN 2004020356 EMBASE
TI Potential Toxicities of Herbal Therapies in the Developing Fetus.

AU Jurgens T.M.
CS Dr. T.M. Jurgens, College of Pharmacy, 2968 College St., Halifax, NS B3H 3J5, Canada. tjurgens@kilcom1.UCIS.Dal.ca
SO Birth Defects Research Part B - Developmental and Reproductive Toxicology, (2003) Vol. 68, No. 6, pp. 496-498.
Refs: 27
ISSN: 1542-9733 CODEN: BDRPCU
CY United States
DT Journal; General Review
FS 010 Obstetrics and Gynecology
021 Developmental Biology and Teratology
037 Drug Literature Index
038 Adverse Reactions Titles
052 Toxicology
LA English
ED Entered STN: 20040220
Last Updated on STN: 20040220
CT Medical Descriptors:
*fetus development
*pregnancy
drug utilization
Echinacea
Ginkgo biloba
Hypericum perforatum
teratogenicity: SI, side effect
drug effect
herbal medicine
prescription
drug safety
drug quality
chemical composition
birth defect: SI, side effect
drug information
drug screening
ginseng
virilization: SI, side effect
drug labeling
standardization
drug isolation
labor induction
anxiety disorder: DT, drug therapy
reproductive health
embryotoxicity: SI, side effect
neural tube defect: SI, side effect
mutagenicity
hormone substitution
stress
fatigue
placenta circulation
blood oxygenation
reproductive toxicity: CO, complication
developmental disorder: CO, complication
liver vein obstruction: SI, side effect
sleep disorder: DT, drug therapy
urinary tract malformation: CO, complication
urinary tract malformation: CN, congenital disorder
fetotoxicity: CO, complication
bone malformation: CO, complication
bone malformation: CN, congenital disorder
congenital malformation: CO, complication

congenital malformation: CN, congenital disorder
drug mechanism
skeleton malformation: CN, congenital disorder
skeleton malformation: SI, side effect
human
nonhuman
review
priority journal
Drug Descriptors:
*herbaceous agent: AE, adverse drug reaction
*herbaceous agent: DT, drug therapy
*herbaceous agent: TO, drug toxicity
Echinacea extract
Ginkgo biloba extract: TO, drug toxicity
Ginkgo biloba extract: PD, pharmacology
Hypericum perforatum extract: DT, drug therapy
Hypericum perforatum extract: TO, drug toxicity
kava
toxic substance: TO, drug toxicity
plant extract: AE, adverse drug reaction
plant extract: TO, drug toxicity
caulophyllum thalictroides extract: AE, adverse drug reaction
caulophyllum thalictroides extract: TO, drug toxicity
caulophyllumine: AE, adverse drug reaction
caulophyllumine: TO, drug toxicity
cytisine: AE, adverse drug reaction
cytisine: TO, drug toxicity
caulophylline: AE, adverse drug reaction
caulophylline: TO, drug toxicity
ginger extract: DT, drug therapy
ginger extract: TO, drug toxicity
ginger extract: PD, pharmacology
thromboxane
gingerol: TO, drug toxicity
gingerol: PD, pharmacology
shogaol: TO, drug toxicity
shogaol: PD, pharmacology
zingerone
hormone receptor: EC, endogenous compound
testosterone receptor: EC, endogenous compound
ginseng extract: AE, adverse drug reaction
ginseng extract: DT, drug therapy
phytoestrogen: TO, drug toxicity
pyrrolizidine alkaloid: AE, adverse drug reaction
tannin
essential oil
Scutellaria lateriflora extract: AE, adverse drug reaction
Scutellaria lateriflora extract: DT, drug therapy
monoamine oxidase inhibitor
Valeriana officinalis extract: TO, drug toxicity
valepotriate
flavone derivative
terpene derivative
unindexed drug
unclassified drug

L56 ANSWER 7 OF 18 MEDLINE on STN
AN 2003074216 MEDLINE
DN PubMed ID: 12585329
TI Development and validation of a gas chromatographic-mass spectrometric

method for simultaneous identification and quantification of marker compounds including bilobalide, ginkgolides and flavonoids in Ginkgo biloba L. extract and pharmaceutical preparations.

AU Deng Fengxia; Zito S William
CS Department of Pharmaceutical Sciences, College of Pharmacy and Allied Health Professions, St. Johns University, 8000 Utopia Parkway, Jamaica, NY 11439, USA.

SO Journal of chromatography. A, (2003 Jan 31) 986 (1) 121-7.
Journal code: 9318488.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
(VALIDATION STUDIES)
LA English
FS Priority Journals
EM 200307
ED Entered STN: 20030215
Last Updated on STN: 20030729
Entered Medline: 20030728

AB A gas chromatography-mass spectrometry (GC-MS) method was developed and validated for the simultaneous determination of seven major chemical markers (bilobalide, ginkgolides A, B, C, kaempferol, quercetin and isorhamnetin) in phytopharmaceuticals of Ginkgo biloba L. The intra-day relative standard deviations (RSD) and inter-day RSD's were based on the analysis of the standardized Ginkgo biloba L. extract on the same day and on the following 3 consecutive days. The intra-day RSD's ranged from 1.21% (bilobalide) to 6.20% (kaempferol). The inter-day RSD's ranged from 2.10% (bilobalide) to 10.42% (isorhamnetin). Mean recoveries ranged from a low of 63.0 +/- 5.3% (isorhamnetin) to a maximum of 103.5 +/- 6.0% (ginkgolide A). Calibration curves were linear in ranges between 2.73 and 36.36 microg/ml for the markers. Limits of detection ranged from a low of 0.5 microg/ml (bilobalide) to a high of 2.5 microg/ml (quercetin). The limits of quantitation were a low of 1.1 microg/ml (gingkolides A, B, C) to a high of 7.5 microg/ml (kaempferol). The method was applied to a standard extract (>6% total terpenoids and >24% total flavonoids) and six ginkgo capsule phytopharmaceuticals.

CT Calibration
*Cyclopentanes: AN, analysis
*Diterpenes
***Flavonoids: AN, analysis**
*Furans: AN, analysis
***Ginkgo biloba: CH, chemistry**
***Lactones: AN, analysis**
*Mass Fragmentography: MT, methods
*Pharmaceutical Preparations: CH, chemistry
*Plant Extracts: CH, chemistry
Reproducibility of Results
Sensitivity and Specificity

L56 ANSWER 8 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 2002386140 EMBASE
TI Efficient extraction of ginkgolides and bilobalide from Ginkgo biloba leaves.

AU Lichtblau D.; Berger J.M.; Nakanishi K.
CS K. Nakanishi, Department of Chemistry, Columbia University, 3000 Broadway, New York, NY 10027, United States. kn5@columbia.edu

SO Journal of Natural Products, (1 Oct 2002) Vol. 65, No. 10, pp. 1501-1504.
Refs: 33
ISSN: 0163-3864 CODEN: JNPRDF
CY United States

DT Journal; Article
FS 037 Drug Literature Index
LA English
SL English
ED Entered STN: 20021114
Last Updated on STN: 20021114
AB An efficient and rapid protocol has been developed for extracting ginkgolides and bilobalide (**terpene** trilactones) from Ginkgo biloba leaves. The procedure takes advantage of the extraordinary stability of the **terpene** trilactone structure to a variety of chemical treatments, especially oxidation, despite the presence of multiple oxygen functions. The protocol involves boiling the aqueous extract of leaves with dilute hydrogen peroxide, extraction with ethyl acetate, washing with basic solutions, and charcoal filtration to yield an off-white powder, **terpene** trilactone content 60-70%. It is likely that the hydrogen peroxide treatment degrades the undesired leaf constituents that lead to intense emulsification during extractions. Further reversed-phase chromatography of the extracts with polymeric resins removes the undesirable ginkgolic acids to amounts less than 10 ppm. The extracts are suited for pure **terpene** trilactone preparation, enrichment of **terpene** trilactone **content** in nutraceuticals, and preparations of low-**flavonoid**/**high-terpene** trilactone controls in medicinal studies. The four ginkgolides (ginkgolides A, B, C, J) and bilobalide isolated from the extract were identical in all respects with authentic specimens.
CT Medical Descriptors:
***drug isolation**
*Ginkgo biloba
plant leaf
molecular stability
drug structure
oxidation
aqueous solution
dilution
drug synthesis
filtration
reversed phase liquid chromatography
emulsion
article
Drug Descriptors:
***Ginkgo biloba extract: AN, drug analysis**
***Ginkgo biloba extract: DV, drug development**
*ginkgolide A: AN, drug analysis
*ginkgolide A: DV, drug development
*ginkgolide B: AN, drug analysis
*ginkgolide B: DV, drug development
*ginkgolide C: AN, drug analysis
*ginkgolide C: DV, drug development
*ginkgolide J: AN, drug analysis
*ginkgolide J: DV, drug development
*bilobalide: AN, drug analysis
*bilobalide: DV, drug development
terpene trilactone derivative: AN, drug analysis
terpene trilactone derivative: DV, drug development
acetic acid ethyl ester
hydrogen peroxide
oxygen
polymer
resin
unclassified drug

L56 ANSWER 9 OF 18 MEDLINE on STN
AN 2002132733 MEDLINE
DN PubMed ID: 11829655
TI Extraction of pharmaceutical components from **Ginkgo** biloba leaves using supercritical carbon dioxide.
AU Yang Chun; Xu Yan-Rong; Yao Wei-Xi
CS Laboratory of Environmental-Analytical Chemistry and Ecological Toxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China.. cyang@nie.edu.sg
SO Journal of agricultural and food chemistry, (2002 Feb 13) 50 (4) 846-9. Journal code: 0374755. ISSN: 0021-8561.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200204
ED Entered STN: 20020301
Last Updated on STN: 20020424
Entered Medline: 20020423
AB **Ginkgo** biloba extract (GBE) has many remarkable pharmacological and clinical effects, and it is the most frequently used product as a phytomedicine in many countries. The combination of primary extraction with 70% ethanol followed by extraction using supercritical carbon dioxide provides an efficient and economical means for obtaining flavonoids and terpenoids from **Ginkgo** biloba leaves. The supercritical fluid extraction (SFE) is affected by pressure, temperature, and the concentration of modifier in the extractant. At the most favorable experimental conditions of 300 MPa, 60 degrees C, and carbon dioxide containing 5% ethanol as modifier, the yield of GBE powder is 2.1% (based on the air-dry weight of **Ginkgo** biloba leaves) compared to a yield of only 1.8% by conventional solvent extraction. The contents of flavonoids and terpenoids in SFE products are 35.9% and 7.3%, respectively, which are significantly higher than the general standards of 24% and 6%, respectively.
CT Carbon Dioxide
Chromatography, High Pressure Liquid
*Chromatography, Supercritical Fluid: MT, methods
Ethanol
Flavonoids: AN, analysis
Flavonoids: IP, isolation & purification
***Ginkgo biloba: CH, chemistry**
*Pharmaceutical Preparations
*Plant Leaves: CH, chemistry
Pressure
Temperature
Terpenes: AN, analysis
Terpenes: IP, isolation & purification

L56 ANSWER 10 OF 18 MEDLINE on STN
AN 2002265698 MEDLINE
DN PubMed ID: 12005361
TI Pharmaceutical quality of different **Ginkgo** biloba brands.
AU Kressmann S; Muller W E; Blume H H
CS Biocenter Niederursel, Department of Pharmacology, University of Frankfurt, Germany.
SO Journal of pharmacy and pharmacology, (2002 May) 54 (5) 661-9. Journal code: 0376363. ISSN: 0022-3573.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Priority Journals
EM 200301
ED Entered STN: 20020514
Last Updated on STN: 20030114
Entered Medline: 20030113

AB **Ginkgo** biloba-containing brands are one of the top sellers within the growing market for herbal remedies in many European countries as well as in the USA. In the consumers' interest, these brands should feature a certain quality and should be transparent in quality claims. In this investigation, a variety of products on the USA market was studied with respect to pharmaceutical quality, such as quantity of constituents and in-vitro dissolution. In terms of the content of active substances, flavone glycosides ranged from 24% to 36% and terpene lactones from 4% to 11%. With ginkgolic acids, there was a very large range, from < 500 ppm to about 90000 ppm. Comparing the dissolution rates of terpene lactones and flavone glycosides within the single products, most were approximately the same. Thus, terpene lactones and flavone glycosides were released from these products and dissolved at the same rate in most cases. Furthermore, most of the products investigated released more than the required 75% of the content of both components within 30 min. However, several products showed clear and relevant differences in dissolution rates to the rest (e.g. < 75% within 30 min or even less than 25% after 60 min in one case, indicating much poorer pharmaceutical quality). Beside the comparability respectively standardisation of the extracts used, the in-vitro dissolution of the relevant constituents should be similar to other drugs to guarantee comparable in-vivo performance of herbal products. An important step in standardising pharmaceutical quality is the pharmacopoeial monograph for **Ginkgo** biloba extract in Germany, standardising the content of pharmacologically relevant substances (flavone glycosides 22-27% and terpenlactones 5-7%, 2.8-3.4% ginkgolides A, B, C and 2.6-3.2% bilobalide thereof). Many of the investigated products, which refer to the German Commission E (of the Federal Institute for Drugs and Medicinal Devices) monograph, are not in accordance with this specification. Thus, they can not be considered to be pharmaceutically equivalent.

CT Chromatography, High Pressure Liquid
***Flavonoids: AN, analysis**
***Ginkgo biloba: CH, chemistry**
*Glycosides: AN, analysis
Plant Extracts: CH, chemistry
Quality Control
Research Support, Non-U.S. Gov't
*Salicylic Acids: AN, analysis
Solubility
***Terpenes: AN, analysis**

L56 ANSWER 11 OF 18 MEDLINE on STN
AN 2002633097 MEDLINE
DN PubMed ID: 12151066
TI Simultaneous determination of terpene lactones and flavonoid aglycones in **Ginkgo** biloba by high-performance liquid chromatography with evaporative light scattering detection.
AU Li Wenkui; Fitzloff John F
CS Department of Medicinal Chemistry and Pharmacognosy, Program for Collaborative Research in Pharmaceutical Sciences, University of Illinois at Chicago, 833 South Wood Street, 60612-7231, Chicago, IL, USA.
SO Journal of pharmaceutical and biomedical analysis, (2002 Aug 22) 30 (1) 67-75.
Journal code: 8309336. ISSN: 0731-7085.

CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200211
ED Entered STN: 20021024
Last Updated on STN: 20021213
Entered Medline: 20021125
AB A gradient high performance liquid chromatographic method with evaporative light scattering detection (ELSD) for the simultaneous determination of ginkgolide A, ginkgolide B, ginkgolide C, ginkgolide J, bilobalide, quercetin, kaempferol and isorhamnetin in **Ginkgo** biloba is described. Samples are analyzed by means of a reverse-phase column (Supelco Discovery C-18) using methanol (containing 0.05% TFA) and water (containing 5% methanol and 0.05% TFA) under gradient conditions as the mobile phase over 35 min. The evaporative light scattering detector (ELSD) used, is set at an evaporating temperature of 61 degrees C and compressed air pressure of 2.9 bar. The detection limits (S/N>3) of the compounds tested are 20-35 ng on the column. The exponential linear calibration curves are observed for all the compounds tested with r(2) more than 0.998. The reproducibility of the method was evaluated by analyzing three sets of controls on 3 consecutive days with RSD% and relative errors (RE%) less than 17.26 and 14.67%.
CT Calibration
Chromatography, High Pressure Liquid
***Flavonoids: AN, analysis**
***Ginkgo biloba: CH, chemistry**
Indicators and Reagents
***Lactones: AN, analysis**
Light
Reference Standards
Reproducibility of Results
Scattering, Radiation
Solutions
Spectrophotometry, Ultraviolet
***Terpenes: AN, analysis**

L56 ANSWER 12 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 2001401942 EMBASE
TI Ginkgo biloba: Potential concern.
AU Kayne S.
CS Dr. S. Kayne, School of Pharmacy, University of Strathclyde, Glasgow, United Kingdom. Skayne9665@cs.com
SO Good Clinical Practice Journal, (2001) Vol. 8, No. 11, pp. 8-10.
Refs: 29
ISSN: 1350-0961 CODEN: GCPJFJ
CY United Kingdom
DT Journal; Note
FS 037 Drug Literature Index
039 Pharmacy
008 Neurology and Neurosurgery
030 Pharmacology
032 Psychiatry
011 Otorhinolaryngology
038 Adverse Reactions Titles
LA English
ED Entered STN: 20011130
Last Updated on STN: 20011130
CT Medical Descriptors:

human
drug efficacy
herbal medicine
drug isolation
drug dosage form
diet supplementation
Chinese medicine
antioxidant activity
peripheral circulation
cerebrovascular disease: DT, drug therapy
drug antagonism
drug potentiation
attention deficit disorder
drug contraindication
evidence based medicine
drug safety
tinnitus: DT, drug therapy
headache: SI, side effect
allergic reaction: SI, side effect
note
Drug Descriptors:
***Ginkgo biloba extract: PD, pharmacology**
***Ginkgo biloba extract: DV, drug development**
***Ginkgo biloba extract: PR, pharmaceutics**
***Ginkgo biloba extract: DT, drug therapy**
***Ginkgo biloba extract: DO, drug dose**
***Ginkgo biloba extract: IT, drug interaction**
***Ginkgo biloba extract: CB, drug combination**
***Ginkgo biloba extract: PA, parenteral drug administration**
***Ginkgo biloba extract: AE, adverse drug reaction**
flavonoid glycoside: PD, pharmacology
flavonoid glycoside: DV, drug development
flavonoid glycoside: PR, pharmaceutics
flavonoid glycoside: DT, drug therapy
diterpene: PD, pharmacology
diterpene: DV, drug development
diterpene: PR, pharmaceutics
diterpene: DT, drug therapy
lactone derivative: PD, pharmacology
lactone derivative: DV, drug development
lactone derivative: PR, pharmaceutics
lactone derivative: DT, drug therapy
ginkgolide derivative: PD, pharmacology
ginkgolide derivative: DV, drug development
ginkgolide derivative: PR, pharmaceutics
ginkgolide derivative: DT, drug therapy
anticoagulant agent: CB, drug combination
anticoagulant agent: IT, drug interaction
insulin: CB, drug combination
insulin: IT, drug interaction
monoamine oxidase inhibitor: CB, drug combination
monoamine oxidase inhibitor: IT, drug interaction
thiazide diuretic agent: CB, drug combination
thiazide diuretic agent: IT, drug interaction
trazodone: CB, drug combination
trazodone: IT, drug interaction
warfarin: CB, drug combination
warfarin: IT, drug interaction
acetylsalicylic acid: CB, drug combination
acetylsalicylic acid: IT, drug interaction

ginseng extract: IT, drug interaction
ginseng extract: CB, drug combination
ginseng extract: DT, drug therapy

L56 ANSWER 13 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 1998253042 EMBASE
TI Ginkgo biloba L..
AU Van Beek T.A.; Bombardelli E.; Morazzoni P.
CS P. Morazzoni, Indena S.p.A., Scientific Department, Viale Ortles 12, 20139 Milan, Italy
SO Fitoterapia, (1998) Vol. 69, No. 3, pp. 195-244.
Refs: 238
ISSN: 0367-326X CODEN: FTRPAE
CY Italy
DT Journal; General Review
FS 008 Neurology and Neurosurgery
018 Cardiovascular Diseases and Cardiovascular Surgery
030 Pharmacology
037 Drug Literature Index
038 Adverse Reactions Titles
LA English
SL English
ED Entered STN: 19980820
Last Updated on STN: 19980820
AB The chemistry, analysis, pharmacology and clinical applications of extracts of the maidenhair tree (G. biloba) are reviewed. This botanically unique tree contains some unusual secondary metabolites, among others a number of highly oxidised **terpene** trilactones (ginkgolides, bilobalide) which, together with some **flavonoids**, are considered to be responsible for the pharmacological activities of standardized leaf extracts: vaso- and tissue-protective action, cognition-enhancing and antiageing activity, including stress-alleviating and neuroprotective/neurotrophic effects. All these properties support the therapeutic applications against cerebral insufficiency and impaired peripheral blood circulation.
CT Medical Descriptors:
*ginkgo biloba
*brain dysfunction: DT, drug therapy
*peripheral occlusive artery disease: DT, drug therapy
*alzheimer disease: DT, drug therapy
*cognitive defect: CO, complication
*cognitive defect: DT, drug therapy.
*herbal medicine
drug isolation
drug effect
cognition
aging
brain circulation
antioxidant activity
treatment indication
gastrointestinal symptom: SI, side effect
skin manifestation: SI, side effect
human
nonhuman
male
female
major clinical study
clinical trial
double blind procedure

crossover procedure
multicenter study
controlled study
animal cell
aged
adult
review
Drug Descriptors:
*bilobalide: AE, adverse drug reaction
*bilobalide: CT, clinical trial
*bilobalide: DV, drug development
*bilobalide: DO, drug dose
*bilobalide: DT, drug therapy
*bilobalide: PR, pharmaceutics
*bilobalide: PK, pharmacokinetics
*bilobalide: PD, pharmacology
*ginkgolide a: AE, adverse drug reaction
*ginkgolide a: CT, clinical trial
*ginkgolide a: DV, drug development
*ginkgolide a: DO, drug dose
*ginkgolide a: DT, drug therapy
*ginkgolide a: PR, pharmaceutics
*ginkgolide a: PK, pharmacokinetics
*ginkgolide a: PD, pharmacology
*ginkgolide b: AE, adverse drug reaction
*ginkgolide b: CT, clinical trial
*ginkgolide b: DV, drug development
*ginkgolide b: DO, drug dose
*ginkgolide b: DT, drug therapy
*ginkgolide b: PR, pharmaceutics
*ginkgolide b: PK, pharmacokinetics
*ginkgolide b: PD, pharmacology
***ginkgo biloba extract**
medicinal plant
plant extract
nitric oxide: EC, endogenous compound
endothelium derived relaxing factor: EC, endogenous compound
alpha tocopherol: CM, drug comparison
pentoxifylline: CM, drug comparison
antioxidant: AN, drug analysis
antioxidant: CM, drug comparison
antioxidant: DV, drug development
antioxidant: DO, drug dose
antioxidant: PD, pharmacology
thrombocyte activating factor antagonist: AN, drug analysis
thrombocyte activating factor antagonist: DV, drug development
thrombocyte activating factor antagonist: DO, drug dose
thrombocyte activating factor antagonist: PD, pharmacology

L56 ANSWER 14 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
AN 95097770 EMBASE
DN 1995097770
TI Comparative antilipoperoxidant, antinecrotic and scavenging properties of **terpenes** and biflavones from Ginkgo and some **flavonoids.**
AU Joyeux M.; Lobstein A.; Anton R.; Mortier F.
CS Laboratoire de Pharmacognosie, Faculte Sciences Pharmaceut./Biolog., 5 Rue Albert Lebrun,F-54001 Nancy Cedex, France
SO Planta Medica, (1995) Vol. 61, No. 2, pp. 126-129.
ISSN: 0032-0943 CODEN: PLMEAA

CY Germany
DT Journal; Article
FS 005 General Pathology and Pathological Anatomy
029 Clinical Biochemistry
048 Gastroenterology
030 Pharmacology
037 Drug Literature Index
LA English
SL English
ED Entered STN: 950503
Last Updated on STN: 950503
AB Gingko biloba extract is known to be efficient in diseases associated with free radical generation. This study compares the in vitro effect of some constituents of Ginkgo against lipid peroxidation and cell necrosis of isolated rat hepatocytes, and against superoxide anion which is generally implicated in cell damages.
CT Medical Descriptors:
*lipid peroxidation
*liver necrosis
animal cell
animal experiment
article
cell damage
controlled study
drug isolation
male
nonhuman
rat
Drug Descriptors:
*biflavonoid: DV, drug development
*biflavonoid: CM, drug comparison
*biflavonoid: PD, pharmacology
***flavonoid: DV, drug development**
***flavonoid: CM, drug comparison**
***flavonoid: PD, pharmacology**
***ginkgo biloba extract: CM, drug comparison**
***ginkgo biloba extract: PD, pharmacology**
*scavenger: DV, drug development
*scavenger: PD, pharmacology
*scavenger: CM, drug comparison
***terpene derivative: DV, drug development**
***terpene derivative: CM, drug comparison**
***terpene derivative: PD, pharmacology**
acacetin: PD, pharmacology
acacetin: DV, drug development
acacetin: CM, drug comparison
amentoflavone: PD, pharmacology
amentoflavone: DV, drug development
amentoflavone: CM, drug comparison
apigenin: PD, pharmacology
apigenin: CM, drug comparison
apigenin: DV, drug development
bilobalide: CM, drug comparison
bilobalide: DV, drug development
bilobalide: PD, pharmacology
bilobetin: PD, pharmacology
bilobetin: CM, drug comparison
bilobetin: DV, drug development
chrysin: CM, drug comparison
chrysin: DV, drug development

chrysin: PD, pharmacology
fisetin: PD, pharmacology
fisetin: CM, drug comparison
fisetin: DV, drug development
flavone derivative: PD, pharmacology
flavone derivative: CM, drug comparison
flavone derivative: DV, drug development
free radical: EC, endogenous compound
ginkgetin: PD, pharmacology
ginkgetin: CM, drug comparison
ginkgetin: DV, drug development
ginkgolide: DV, drug development
ginkgolide: CM, drug comparison
ginkgolide: PD, pharmacology
ginkgolide a: DV, drug development
ginkgolide a: CM, drug comparison
ginkgolide a: PD, pharmacology
ginkgolide b: PD, pharmacology
ginkgolide b: DV, drug development
ginkgolide b: CM, drug comparison
ginkgolide c: DV, drug development
ginkgolide c: CM, drug comparison
ginkgolide c: PD, pharmacology
hinokiflavone: PD, pharmacology
hinokiflavone: DV, drug development
hinokiflavone: CM, drug comparison
isoginkgetin: PD, pharmacology
isoginkgetin: CM, drug comparison
isoginkgetin: DV, drug development
kaempferol: DV, drug development
kaempferol: PD, pharmacology
kaempferol: CM, drug comparison
luteolin: CM, drug comparison
luteolin: PD, pharmacology
luteolin: DV, drug development
myricetin: DV, drug development
myricetin: CM, drug comparison
myricetin: PD, pharmacology
quercetin: DV, drug development
quercetin: CM, drug comparison
quercetin: PD, pharmacology
rutoside: CM, drug comparison
rutoside: DV, drug development
rutoside: PD, pharmacology
sciadopitysin: PD, pharmacology
sciadopitysin: CM, drug comparison
sciadopitysin: DV, drug development
superoxide: EC, endogenous compound
taxifolin: PD, pharmacology
taxifolin: CM, drug comparison
taxifolin: DV, drug development
tert butyl hydroperoxide: TO, drug toxicity
unclassified drug

L56 ANSWER 15 OF 18 MEDLINE on STN DUPLICATE 1
AN 93181480 MEDLINE
DN PubMed ID: 8441775
TI Quality of **Ginkgo** preparations.
AU Sticher O
CS Department of Pharmacy, Federal Institute of Technology (ETH) Zurich,

Switzerland.
SO Planta medica, (1993 Feb) 59 (1) 2-11. Ref: 25
Journal code: 0066751. ISSN: 0032-0943.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199303
ED Entered STN: 19930416
Last Updated on STN: 19930416
Entered Medline: 19930331
AB A survey of known and of recently isolated constituents from **Ginkgo** leaves is given. The structures of flavonoids and terpene lactones which are considered to be the active compounds as well as their qualitative and quantitative determination in **Ginkgo** leaves and phytomedicines are presented. In the case of flavonoid analysis three selective methods worked out in our laboratories are described. The quality control of terpene lactones is discussed on the basis of a recently published paper. Finally, the standardization methods used for the quality control of **Ginkgo** preparations as well as the question as to whether or not phytomedicine generics--so called "phytogenerics"--exist, is discussed.
CT Carbohydrate Sequence
Flavonoids: CH, chemistry
Flavonoids: IP, isolation & purification
Glycosides: CH, chemistry
Glycosides: IP, isolation & purification
Lactones: CH, chemistry
Lactones: IP, isolation & purification
Molecular Sequence Data
*Plants, Medicinal
Plants, Medicinal: CH, chemistry
Quality Control
Research Support, Non-U.S. Gov't
Terpenes: CH, chemistry
Terpenes: IP, isolation & purification

L56 ANSWER 16 OF 18 MEDLINE on STN
AN 93222252 MEDLINE
DN PubMed ID: 1298366
TI Rapid liquid chromatography of terpenes in **Ginkgo** biloba L. extracts and products.
AU Pietta P; Mauri P; Rava A
CS Dipartimento di Scienze e Tecnologie Biomediche, Sezione di Chimica Organica Via Celoria, Milano, Italy.
SO Journal of pharmaceutical and biomedical analysis, (1992 Oct-Dec) 10 (10-12) 1077-9.
Journal code: 8309336. ISSN: 0731-7085.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199305
ED Entered STN: 19930521
Last Updated on STN: 19930521
Entered Medline: 19930507
CT *Chromatography, High Pressure Liquid
Flavonoids: IP, isolation & purification

Glycosides: IP, isolation & purification
*Plant Extracts: CH, chemistry
***Terpenes: AN, analysis**

L56 ANSWER 17 OF 18 EMBASE
on STN
AN 93022215 EMBASE
DN 1993022215
TI [The analysis and preparation of Ginkgo biloba].
GINKGO BILOBA - ANALYTIK UND ZUBEREITUNGSFORMEN.
AU Sticher O.
CS Departement Pharmazie, Eidgenossische Technische Hochsch.,Zurich, Switzerland
SO Pharmazie in Unserer Zeit, (1992) Vol. 21, No. 6, pp. 253-265.
ISSN: 0048-3664 CODEN: PHUZBI
CY Germany
DT Journal; General Review
FS 037 Drug Literature Index
LA German
ED Entered STN: 930221
Last Updated on STN: 930221
CT Medical Descriptors:
*phytotherapy
analytic method
chromatography
drug control
drug determination
drug isolation
high performance liquid chromatography
quality control
review
standardization
Drug Descriptors:
***flavonoid: AN, drug analysis**
***ginkgo biloba extract: PR, pharmaceutics**
***ginkgo biloba extract: AN, drug analysis**
***terpene derivative: AN, drug analysis**
craton
gincosan
ginkobil
valverde
unclassified drug

L56 ANSWER 18 OF 18 MEDLINE on STN
AN 87067160 MEDLINE
DN PubMed ID: 2947081
TI [Preparation and definition of **Ginkgo** biloba extract].
Preparation et definition de l'extrait de **Ginkgo** biloba.
AU Drieu K
SO Presse medicale (Paris, France : 1983), (1986 Sep 25) 15 (31) 1455-7.
Journal code: 8302490. ISSN: 0755-4982.
CY France
DT Journal; Article; (JOURNAL ARTICLE)
LA French
FS Priority Journals
EM 198701
ED Entered STN: 19900302
Last Updated on STN: 19900302
Entered Medline: 19870106
AB **Ginkgo** biloba extract is a well-defined and complex product

prepared from green leaves of **Ginkgo** biloba. The leaves are harvested from trees growing in plantations in South Corea, Japan and France. The mode of culture, harvesting and extraction are perfectly standardized and controlled. Analysis of **Ginkgo** biloba extract makes it possible to confirm that undesirable substances have been eliminated and to measure the amount of active principles. The extract contains flavonoid substances, such as the **Ginkgo**-flavone glycosides and terponoids which are characteristic of **Ginkgo** and have a unique structure (ginkgolides, bilobalide).

CT Chemistry
English Abstract
Flavonoids: AN, analysis
Plant Extracts: AN, analysis
Plant Extracts: IP, isolation & purification
*Plants, Medicinal
Terpenes: AN, analysis
*Trees

=> => □

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L1 823 SEA FILE=NAPRALERT ABB=ON PLU=ON GINKGO BILOBA
L2 588 SEA FILE=NAPRALERT ABB=ON PLU=ON (EXTRACT OR EXT?) AND L1
L3 1731 SEA FILE=NAPRALERT ABB=ON PLU=ON TERPEN?
L4 6793 SEA FILE=NAPRALERT ABB=ON PLU=ON LACTON?
L5 20897 SEA FILE=NAPRALERT ABB=ON PLU=ON FLAVON?
L10 14 SEA FILE=NAPRALERT ABB=ON PLU=ON L2 AND (L3 OR L4)
L11 60 SEA FILE=NAPRALERT ABB=ON PLU=ON L5 AND L2
L12 6 SEA FILE=NAPRALERT ABB=ON PLU=ON L11 AND L10

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=> d all 1-6

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L12 ANSWER 1 OF 6 NAPRALERT COPYRIGHT (C) 2005 BD. TRUSTEES, U. IL. on STN
AN 2002:4928 NAPRALERT
DN L10765
TI THE **EXTRACT** OF **GINKGO BILOBA.** A NEW FIELD
FOR THE APPLICATION OF **FLAVONOIDS** AND **TERPENOIDS**
AU URATA G; IIJIMA N
CS NATIONAL INST PUBLIC HEALTH, TOKYO JAPAN
SO NIPPON KASEI GAKKAISHI (2000) 51 (8) S. 735-746.
DT Journal
LA ENGLISH
OS CA 134:231371
CHC 400

L12 ANSWER 2 OF 6 NAPRALERT COPYRIGHT (C) 2005 BD. TRUSTEES, U. IL. on STN
AN 2002:37 NAPRALERT
DN E00836
TI THE EFFICACY OF GINSENG. A SYSTEMATIC REVIEW OF RANDOMISED CLINICAL TRIALS
AU VOGLER B K; PITTLER M H; ERNST E
CS DEPT COMPLEMENT MED, SCH POSTGRAD MED HEALTH SCI, UNIV EXETER, EXETER ENGLAND
SO EUR J CLIN PHARMACOL (1999) 55 (8) p. 567-575.
DT (Research paper)
LA ENGLISH
CHC 10792

L12 ANSWER 3 OF 6 NAPRALERT COPYRIGHT (C) 2005 BD. TRUSTEES, U. IL. on STN
AN 2001:5156 NAPRALERT
DN L13889
TI COMPLEMENTARY CARDIOPROTECTIVE EFFECTS OF **FLAVONOID** METABOLITES
AND **TERPENOID** CONSTITUENTS OF **GINKGO BILOBA**
EXTRACT (EGB 761) DURING ISCHEMIAAND REPERFUSION
AU LIEBGOTT T; MIOLLAN M; BERCHADSKY Y; DRIEU K; CULCASI M; PIETRI S
CS UNIV MARSEILLE, MARSEILLE FRANCE
SO BASIC RES CARDIOL (2000) 95 (5) p. 368-377.
DT (Research paper)
LA ENGLISH
CHC 1536

L12 ANSWER 4 OF 6 NAPRALERT COPYRIGHT (C) 2005 BD. TRUSTEES, U. IL. on STN
AN 2001:4161 NAPRALERT
DN L13324
TI PROTECTIVE EFFECTS OF **GINKGO BILOBA EXTRACT**
ON GASTRIC MUCOSA
AU WANG Q; ZHAO W Z H; MA C H G
CS DEPT PHARMACOLOGY, ANHUI MED UNIV, HEFEI 230032 CHINA
SO YAO HSUEH HSUEH PAO (2000) 21 (12) p. 1153-1156.
DT (Research paper)
LA ENGLISH
CHC 1108

L12 ANSWER 5 OF 6 NAPRALERT COPYRIGHT (C) 2005 BD. TRUSTEES, U. IL. on STN
AN 1998:6651 NAPRALERT
DN J16912
TI **TERPENE**-FREE AND **FLAVONOID** GLYCOSIDE-RICH